

**Rico Surface Water Sampling
Supplemental Surface Water Quality Monitoring
Rico, Colorado
Data Summary Report**

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Rico, Colorado
Surface Water Sampling Report
February 2012 Sampling Event

1.0 Introduction

In accordance with the Rico Sampling and Analysis Plan for Supplemental Surface Water Quality Monitoring at Rico, CO prepared by AECOM, dated November 2010, the surface water sampling event was completed on February 21th – 22th, 2012. Sampling was completed by Anderson Engineering Co. Inc., by technicians who are familiar with the Rico sites and the BP Control of Work Management System. Surface water samples were collected from prescribed locations within the St. Louis settling pond system and at the system discharge (DR-6) to the Dolores River (collectively referred to as the St. Louis pond system), and previously sampled locations along the Dolores River above, at and below the St. Louis pond system. Figure 1 and Figure 1a (see Appendix A) illustrate the location of the various sampling stations along the Dolores River and in the St. Louis pond system. Figure 2 in Appendix A illustrates the locations of the twelve monitoring wells being sampled. Sample results are summarized and laboratory analytical results are attached with quality control documentation.

2.0 Field Sampling

2.1 Sampling Frequency

The sampling period represented by this sampling event is for the month of January of 2012. Sampling will be performed on a monthly basis until at least April of 2012.

2.2 Water Quality and Flow Measurement Sampling Locations

Surface water samples were collected from the locations described on Table 1 and shown on Figure 1 and Figure 1a in Appendix A. In the fall of 2011, twelve (12) new monitoring wells were drilled in the vicinity of the recently constructed solids drying cells. Beginning November 2011, those wells were sampled and will continue to be sampled monthly along with the other sampling locations mentioned. Figure 2 in Appendix A illustrates the locations of these wells, and they are described in Table 1.

The Dolores River was sampled above the St. Louis pond system, and below the adit outfalls downstream of the reclaimed Silver Swan Mine area. The river was also sampled at the USGS gaging station downstream of the Silver Swan site.

TABLE 1 - Sample Location Summary

SITE ID	SITE DESCRIPTION
DR-4-SW	Dolores River below Silver Swan
DR-1	Dolores River above St. Louis settling pond system
DR-2	Dolores River immediately above the St. Louis settling pond system outfall
DR-3	St. Louis tunnel discharge at adit

DR-4	Discharge of Pond 15
DR-5	Discharge of Pond 8
DR-6	St. Louis settling pond system outfall to the Dolores River
DR-7	Dolores River below St. Louis settling pond system outfall
DR-G	Dolores River at USGS gaging station #09165000
MW-1 Shallow MW-1 Deep	Both wells are located about 4 feet apart on the western embankment of Pond 13 at the division between Pond 11 and Pond 12.
MW-2 Shallow MW-2 Deep	Both wells are located about 4 feet apart on the western flood embankment of Pond 12, about mid-way along the pond.
MW-3 Shallow MW-3 Deep	Both wells are located about 4 feet apart on the western flood embankment of Pond 15, on the southern half of the embankment.
MW-4 Shallow MW-4 Deep	Both wells are located about 4 feet apart on the southern embankment of Pond 13, approximately 60 west of the main east access road.
MW-5 Shallow MW-5 Deep	Both wells are located about 4 feet apart on the western dike of drying cell 3 (refer to Figure 2).
MW-6 Shallow MW-6 Deep	Both wells are located about 4 feet apart on northern embankment of Pond 13, approximately 75 feet west of the main east access road

2.3 Sampling Station Descriptions

The sampling requirements and stations are described in detail below, as well as the conditions at each station for this sampling period:

DR-1. Dolores River above St. Louis settling ponds system. The sampling/flow measurement location is on the Dolores River approximately 50 feet upstream of the Rico Ranger Station. Flow measurements could not be obtained due to excessive ice built up in the river.

DR-2. Dolores River immediately above the St. Louis settling pond system outfall. Sampling/flow measurement location is on the Dolores just above the 002 discharge outfall, and upstream of the hot tub discharge. The site is located directly adjacent to the thermal discharge which supplies the hot tub. Flow measurement was collected by use of the flotation method.

DR-3. St. Louis tunnel discharge at adit entrance. Sampling location is at the inlet of the flume, just before the throat. Flow measurement by an installed 9" flume and water level measurement devices at the sampling location.

DR-4. Discharge of Pond 15. Flow measurement impaired by ice buildup. Flows estimated from ponds system inflow and outflow.

DR-5. Discharge of Pond 8. Flow measurement impaired by ice buildup in spillway. Flows estimated by water balance and water level reading.

DR-6. St. Louis settling ponds system outfall to the Dolores River (Outfall 002). Flow measurement by installed 9" flume.

DR-7. Dolores River below St. Louis settling ponds system outfall. Sampling/flow measurement location is located just off the entrance road to the St. Louis ponds site where the Dolores River is adjacent to the entrance road. The site is located approximately 75 feet downstream from a large bend in the river that first brings the Dolores adjacent to the entrance road. Flow measurements were collected by use of the flotation method.

DR-4-SW. Dolores River below Silver Swan. Sampling/flow measurement location is on the Dolores River below the Silver Swan site just downstream of a bend in the river and below a cemetery on the east bank. Flow measurements could not be obtained due to excessive ice built up in the river.

DR-G. Located at the USGS gauging station #09165000. Flow measurements could not be obtained due to excessive ice built up in the river.

Monitoring Wells. All monitoring wells were sampled by use of a bailer, and field measurements were taken at the time of sampling. Depth measurements were also taken at this time. For February 2012, MW-2 Shallow and MW-3 Shallow were dry.

3.0 Sampling and Analysis Parameters and Methods

All samples were collected as grab samples. Samples were collected from well-mixed locations, which are representative of conditions within the flow stream. Lab-certified plastic bottles were used to collect sample water for analyses. Clean hands, dirty hands procedures were followed throughout the sampling. For quality control purposes, one duplicate sample and one field blank were included with the water samples being submitted to the laboratory for analysis.

Lab-certified plastic bottles were used to collect all water samples. Sample water was first collected in clean plastic jugs, and within 10 minutes, placed in the sampling bottles. A 500 mL HDPE bottle was used to collect a sample for alkalinity, TDS, TSS, and sulfate analyses. A 250 mL HDPE bottle was used to collect a sample for salinity analysis. Sample water for dissolved metals analysis and potentially dissolved metals analysis was filtered through a 0.45 μm filter into a 250 mL sample bottle containing nitric acid preservative. Sample water for total recoverable metals analysis and water hardness was collected without filtration in a 250 mL HDPE sample bottle containing nitric acid preservative. Sample water for cyanide analysis was collected without filtration into a 250 mL HDPE sample bottle containing sodium hydroxide preservative.

Field parameters were measured at the time of sample collection. Field measurement data for temperature and electrical conductivity were recorded using an EXTECH Instruments DO610 ExStik II DO/pH/Conductivity kit, and results were logged in the field log book. For this sampling period however, components of the meters in the kit were working improperly. Dissolved oxygen and pH could not be collected. Pace Labs conducted pH tests, which are reported in Appendix B and C; however, dissolved oxygen could not be run with reasonable accuracy in the laboratory. New parts for the field kit have been ordered and will be replaced as soon as possible. Weather parameters including

temperature and precipitation were obtained and documented in the Journey Assessment.

All sample bottles were labeled to identify sample number, date and time of collection, type of analysis, and appropriate preservative. In addition, sample analysis/chain of custody forms were completed and processed at the time of sample collection. Original chain of custody forms are signed, dated, and placed in the sample container prior to sealing the container for shipment.

Water samples were kept in cooled containers and sent to the analytical laboratory. Samples were submitted to Pace Analytical Laboratories in Lenexa, Kansas for analysis by analytical procedures listed on Table 2. Analysis was performed according to methods specified in 40 CFR, Part 136 or other methods approved by the EPA. Laboratory methods and reporting limits for all parameters are presented in Table 2. Laboratory results and supporting documentation including quality assurance results are contained in the Appendix C and Appendix D of this report. Results are also summarized in Table 4 and Table 4a in Appendix B of this report.

TABLE 2 - Analytical Procedures Summary

Parameter	Detection Limit (MDL)	Method
Field Parameters		
pH (s.u.)	+/- 0.01 pH	EPA 150.2
Temperature (°C)	+/- 1°C	Standard Method 2550
Conductivity ($\mu\text{mhos}/\text{cm}$)	+/- 2% Full Scale	EPA 120.1
Dissolved Oxygen	+/- 2% Full Scale	SM 4500-OG
Non-Metals		
Alkalinity (mg/L as CaCO_3)	RL – 20 mg/L	EPA 310.1
Hardness (mg/L as CaCO_3)	RL – 0.5 mg/L	SM 2340 B
Total Dissolved Solids (mg/L as TDS)	RL – 5.0 mg/L	SM 2540C
Total Suspended Solids (mg/L as TSS)	RL – 5.0 mg/L	SM 2540D
Cyanide ($\mu\text{g}/\text{L}$ as CN)	RL – 0.005 mg/L	EPA 335.4
Salinity	RL – 6 mg/L	SM 2510B (calculated)
Sulfate (mg/L as SO_4)	RL – 1 mg/L	EPA 300.0
Total and Dissolved Metals		
Aluminum ($\mu\text{g}/\text{L}$ as Al)	2 $\mu\text{g}/\text{L}$	EPA 200.8
Antimony ($\mu\text{g}/\text{L}$ as Sb)	0.07 $\mu\text{g}/\text{L}$	EPA 200.8
Arsenic ($\mu\text{g}/\text{L}$ as As)	0.09 $\mu\text{g}/\text{L}$	EPA 200.8
Barium ($\mu\text{g}/\text{L}$ as Ba)	0.08 $\mu\text{g}/\text{L}$	EPA 200.8
Beryllium ($\mu\text{g}/\text{L}$ as Be)	0.02 $\mu\text{g}/\text{L}$	EPA 200.8
Cadmium ($\mu\text{g}/\text{L}$ as Cd)	0.03 $\mu\text{g}/\text{L}$	EPA 200.8
Calcium ($\mu\text{g}/\text{L}$ as Ca)	10 $\mu\text{g}/\text{L}$	EPA 200.8
Chromium (ug/l as Cr)	0.25 ug/L	EPA 200.8
Copper ($\mu\text{g}/\text{L}$ as Cu)	0.07 $\mu\text{g}/\text{L}$	EPA 200.8
Iron ($\mu\text{g}/\text{L}$ as Fe)	4.67 $\mu\text{g}/\text{L}$	EPA 200.8
Lead ($\mu\text{g}/\text{L}$ as Pb)	0.05 $\mu\text{g}/\text{L}$	EPA 200.8
Magnesium ($\mu\text{g}/\text{L}$ as Mg)	2.5 $\mu\text{g}/\text{L}$	EPA 200.8
Manganese ($\mu\text{g}/\text{L}$ as Mn)	0.17 $\mu\text{g}/\text{L}$	EPA 200.8
Mercury ($\mu\text{g}/\text{L}$ as Hg)	0.049 $\mu\text{g}/\text{L}$	EPA 245.1
Nickel ($\mu\text{g}/\text{L}$ as Ni)	0.07 $\mu\text{g}/\text{L}$	EPA 200.8
Potassium ($\mu\text{g}/\text{L}$ as K)	10 $\mu\text{g}/\text{L}$	EPA 200.8
Selenium (ug/l as Se)	0.22 ug/L	EPA 200.8
Silver (ug/L as Ag)	0.25 ug/L	EPA 200.8
Sodium ($\mu\text{g}/\text{L}$ as Na)	25 $\mu\text{g}/\text{L}$	EPA 200.8
Thallium ($\mu\text{g}/\text{L}$ as Tl)	0.05 ug/L	EPA 200.8
Vanadium ($\mu\text{g}/\text{L}$ as V)	0.05 ug/L	EPA 200.8
Zinc ($\mu\text{g}/\text{L}$ as Zn)	2.5 $\mu\text{g}/\text{L}$	EPA 200.8

4.0 Flow Measurement Methods

Flows were measured at the river sampling locations where accessible. Flow Measurements were not collected at areas where ice and snow buildup prohibited safe access. The flow measurements obtained this sampling period are described in Section 2.3. Flow velocity was measured for sampling locations DR-2, DR-3, DR-6, and DR-7. Flow measurements were not collected at DR-1, DR-4-SW, and DR-G due to ice and snow buildup and lack of safe access, as described above. Velocity measurements at DR-4 and DR-5 were not collected for this sampling period due to ice buildup in that prevented safe access and accurate results. Ice buildup at pond spillways may have influenced water levels. Refer to Figures 3 through 8 in Appendix E for these cross sections. The flowrates are presented on Table 3 in Appendix B.

Due to harsh freezing conditions the Global Water Flow Probe FP211 was not functioning correctly in the field. The flotation method was used to estimate flows at river cross sections where accessible. This method involved measuring off a 10 foot section of ground along the bank parallel to the flow of the river. An object was released in the river at the start of the 10 foot measured interval, as close to the center of the flow stream as possible. A stopwatch was used to record the time required for the object to float on the surface of the river for the duration of the 10 foot interval. Three trials were conducted and recorded in the field log book. An average was taken of the three trials and divided by 10 feet in order to obtain the average surface velocity in the center of the flow stream. This velocity was then multiplied by a factor of 0.8 (see Appendix K for documentation on this factor) in order to obtain an average vertical velocity for the stream. The cross section was divided up into the same number of subsections as was used in the previous month, and based on the distribution of velocities along the cross section from the previous month, correction factors were calculated and applied to the velocity found this month at the respective subsection. This was to account for the slowing of the water as it approached the banks. The Global Water Flow Probe FP211 will be repaired or replaced before the next month of sampling.

The St. Louis tunnel flow (DR-3) and St. Louis pond discharge (DR-6) currently have Parshall flumes installed. Flow measurements can be determined at these flumes when the depth of flow is known at a particular point. In order to continuously monitor and measure the depth of flow, depth measurement devices were installed on May 11th, 2011 and May 12th, 2011 at both the north and south flumes. An STI Ultrasonic IRU-5180 automated water level detector was installed at the north Parshall flume. In order to obtain further flow data, an OTT PLS submersible pressure transducer was installed at the north flume in December 2011. In January 2012, it was decided that the OTT PLS would be used exclusively at the north flume to report flow data, and that the ultrasonic meter would remain only as a backup flow measurement system. This was due in large part to the stability and uniformity observed in the data from the OTT PLS, as opposed to the ultrasonic meter, which exhibited greater instability and variability in the readings than the OTT PLS. The south flume has a submersible pressure transducer called the OTT Orpheus Mini. It records deviations from a pre-programmed depth of air space from the top edge of the flume down to the water level. Knowing then the total depth of the flume, the depth of flow can be

determined. The post processed data for the OTT PLS and the OTT Orpheus Mini for the month of February 2012 is given in Appendix I and Appendix J, respectively.

5.0 Analytical Results

The results of the laboratory analysis are summarized on Table 4 and Table 4a in Appendix B. The data is organized by sample location. The reports for the laboratory results are contained in Appendix C.

6.0 Quality Control

In addition to the standard laboratory Quality Control (QC), field QC samples for this sampling event included a field duplicate and a Field Blank (FB).

6.1 Field QC

A field duplicate water sample was collected from sample location DR-3. During sample collection, the duplicate sample bottles were filled simultaneously from the discharge stream of water. The duplicate sample was submitted to the analytical laboratory with the label of DR-8, so as to serve as a "blind duplicate."

Table 5 compares the analytical results from DR-3 and DR-8 and presents the Relative Percent Difference (RPD). The RPD for aqueous samples should be +/- 20%. All comparative values were within +/-20%.

TABLE 5 – Relative Percent Difference (RPD) of Total Metals Portion Between DR-3 and Duplicate Sample DR-8

Analyte (Total)	DR-3 ($\mu\text{g/L}$)	DR-8 ($\mu\text{g/L}$) Duplicate of DR-3	RPD (%)
Aluminum	611	619	1.30
Antimony	<0.50	<0.50	-
Arsenic	1.1	1.1	0.00
Barium	19.9	20.6	3.46
Beryllium	0.82	0.78	-5.00
Cadmium	14.8	15.4	3.97
Calcium	234000	241000	2.95
Chromium	0.87	0.85	-2.33
Copper	103	105	1.92
Iron	8000	8110	1.37
Lead	-	-	-
Magnesium	19400	19900	2.54
Manganese	2030	2060	1.47
Mercury	<0.20	<0.20	-
Nickel	5.0	5.0	0.00
Potassium	1600	1640	2.47
Selenium	<0.50	<0.50	-
Silver	<0.50	<0.50	-
Sodium	10900	11200	2.71
Thallium	<0.10	<0.10	-

Vanadium	0.11	<0.10	-
Zinc	3310	3380	2.09
Alkalinity (mg/L)	104	102	-1.94
Hardness	665000	685000	2.96
TDS (mg/L)	1040	1070	2.84
TSS (mg/L)	23.0	24.0	4.26
Cyanide	<0.0050	<0.0050	-
Salinity (mg/L)	802	819	2.10
Sulfate (mg/L)	994	919	-7.84

A Field Blank (FB) was collected by pouring distilled water through the filtering manifold after the first day of sampling and decontaminating the equipment. The FB was analyzed for the same constituents as the other samples. The FB had below detectable concentrations for all metals. The pH was slightly below neutral, the Electrical Conductivity (EC) was non-detectable, and it showed a non-detectable level of alkalinity.

6.2 Laboratory QC

The laboratory control sample (LCS), method blank, matrix spike, and matrix spike duplicate sample results were all within the established limits of concentration, percent recovery, and relative percent difference, with several minor exceptions. Please refer to the Laboratory QC Results in Appendix D for exceptions and for a full QC report.

Appendix A
Sampling Location Maps

General Notes



SCALE IN FEET
0 250 500

No.	Revision/Issue	Date

BP / ARCO



RICO SURFACE WATER
SAMOPLING

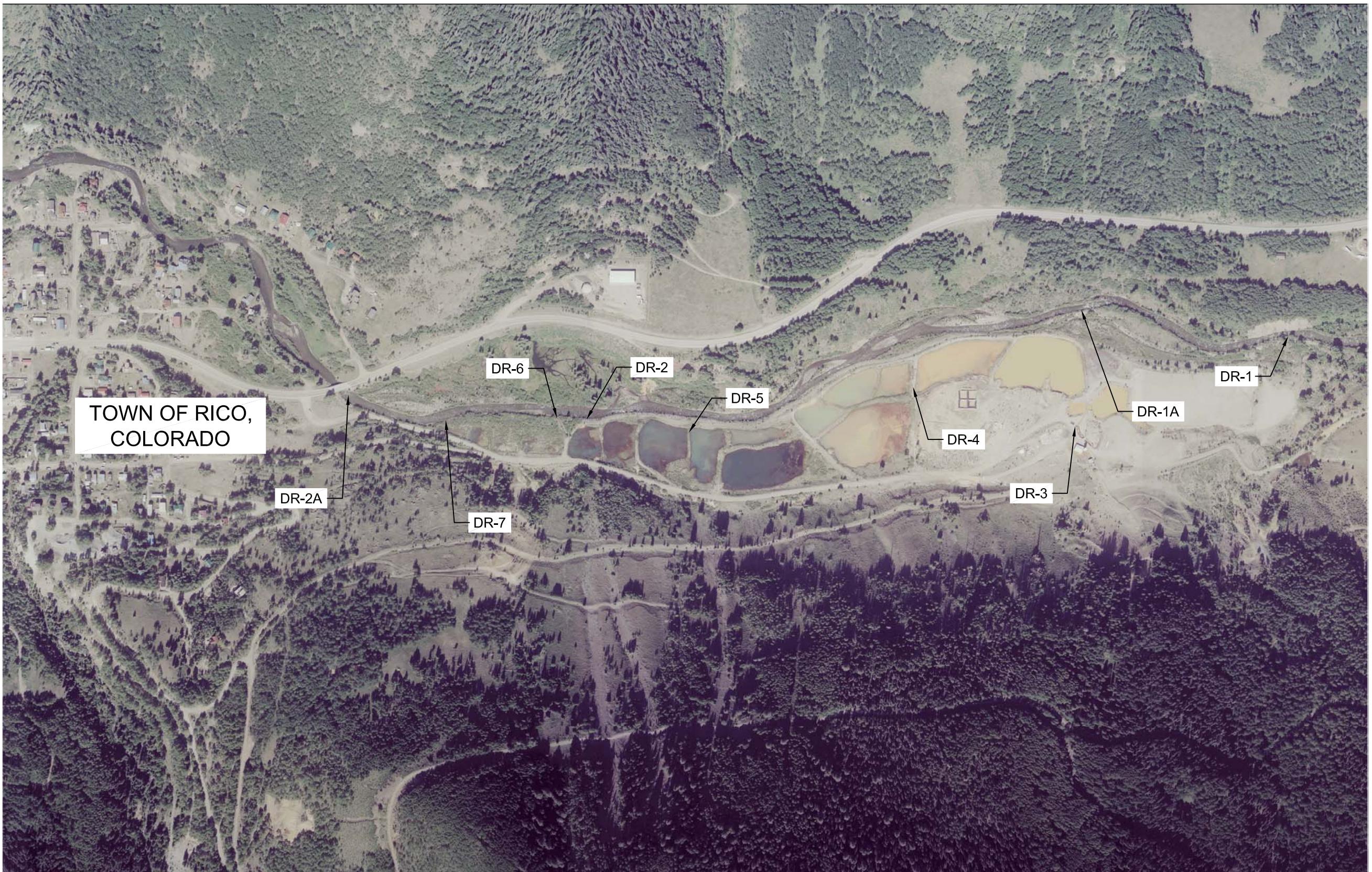
ST. LOIUS PONDS AREA
SAMPLING LOCATIONS

RICO,
COLORADO

DRAWN BY: MAD
ENGINEER: MAD
APPROVED: CES

Project: **ST LOUIS PONDS SAMPLING LOCATIONS**
Date: **5-Apr-12**
Scale: **1" = 500'**

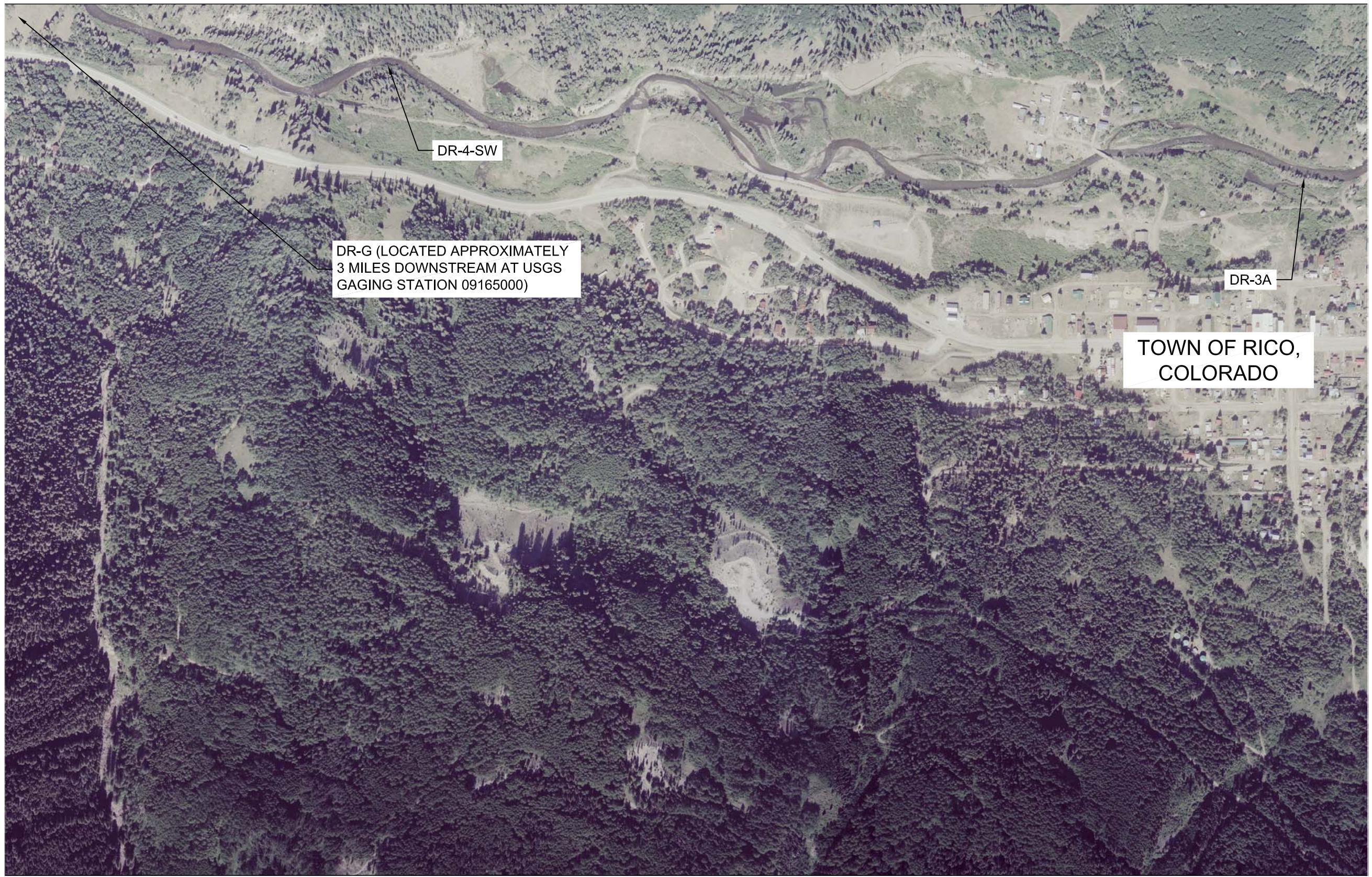
Sheet **1**



01

ST LOUIS PONDS SAMPLING LOCATIONS

SCALE - 1" = 500'



1a SAMPLING LOCATION SOUTH OF RICO, CO
SCALE - 1" = 500'

SCALE - 1" = 500'

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General Notes



SCALE IN FEET



A horizontal scale bar with tick marks at 0, 250, and 500. The word "SCALE IN FEET" is written above the bar.

SCALE IN FEET

• 500 •

DR-3A

TOWN OF RICO, COLORADO

No.	Revision / Issue	Date

BP / ARCO



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ENGINEERING COMPANY, INC.

877 WEST 2100 SOUTH
SALT LAKE CITY, UTAH 84119
(800) 520-0000

RICO SURFACE WATER SAMPLING

SAMPLING LOCATIONS SOUTH
OF RICO, CO

RICO,

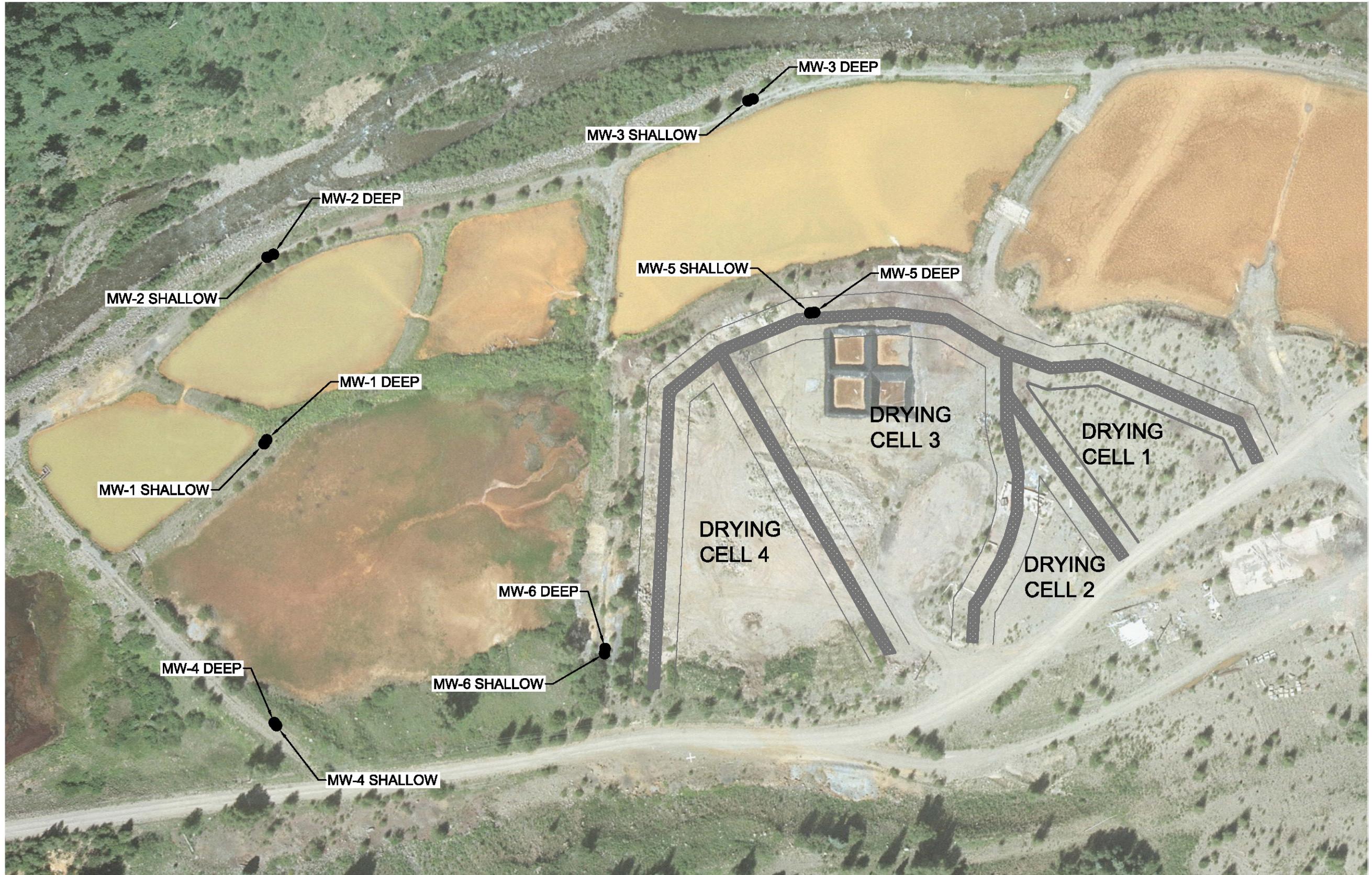
COLORADO

Digitized by srujanika@gmail.com

DRAWN BY:	MAD
ENGINEER:	MAD

Project	Sheet
Date	5-Apr-12
Scale	1" = 500'

1a



02 MONITORING WELL LOCATIONS

SCALE - 1" = 100'

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SCALE IN FEET 0 50 100		
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RICO GW WELL MONITORING MONITORING WELL LOCATIONS RICO COLORADO		
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ENGINEER:	MAD	
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Project	Sheet	
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2		

Appendix B

Data Tables

TABLE 3 - Sampling Field Data and Station Information Summary

	Field Measurements				GPS Location (Colorado State Plane NAD83)						
Sample Location	pH	Temp (°C)	EC (mS/cm)	Dissolved Oxygen (ppm)	Northing	Easting	Date	By	Stream Cross section area (ft^2)	Flowrate (cfs)	Comments
DR-1	8.2	2.33	0.298	CNO	1389970.4600	2267573.6490	2/22/2012	M. DeFriez, T. Barbee	CNO	CNO	Cross section on the Dolores River above St. Louis settling pond system (approximately 800 ft north of the northern edge of Pond 18). Flow measurement could not be obtained due to ice shelf over water.
DR-2	7.9	6.06	0.346	CNO	1386660.9610	2267971.4630	2/22/2012	M. DeFriez, T. Barbee	29.1	15.7	Cross section on the Dolores River, approximately 150 ft north of system outfall. Flow measurement by flotation method.
DR-3	7.0	15.2	1.220	CNO	1388963.0808	2268004.6974	2/22/2012	M. DeFriez, T. Barbee	NA	1.59	St Louis adit discharge. Flow measurement by installed Parshall Flume. Water level by installed STI Ultrasonic IRU-5180 water level meter and an OTT PLS submersible pressure transducer.
DR-4	7.9	11.39	1.126	CNO	1388153.6284	2267799.1579	2/22/2012	M. DeFriez, T. Barbee	NA	1.40	Pond 15 discharge. Flow measurement impaired by ice buildup. Flows estimated from ponds system inflow and outflow.
DR-5	7.0	6.22	1.175	CNO	1387273.4503	2268024.8524	2/22/2012	M. DeFriez, T. Barbee	NA	1.25	Pond 8 was discharging at multiple small locations as well as the spillway. Due to the shallow water and multiple paths, accurate flow measurements could not be determined for this sampling location and period. Leakage was estimated by water balance. Flow measurement impaired by ice buildup in spillway. Flows estimated by water balance and water level reading.
DR-6	7.1	7.94	1.188	CNO	1386431.4984	2267964.5711	2/22/2012	M. DeFriez, T. Barbee	NA	1.15	Outfall to Dolores River. Flow measurement by installed Parshall Flume. Water level by OTT Orpheus Mini submersible pressure transducer.
DR-7	7.3	6.78	0.559	CNO	1385880.1050	2267983.4510	2/22/2012	M. DeFriez, T. Barbee	32.5	24.0	Cross section on the Dolores River, approximately 500 ft below St. Louis settling pond system outfall. Flow measurement by flotation method.
DR-8	7.1	15.2	1.220	CNO	1388963.0808	2268004.6974	2/22/2012	M. DeFriez, T. Barbee	NA	NA	DR-8 is a duplicate sample of DR-3 (or a location of sampler's choosing). See comments for DR-3.
DR-4-SW	7.6	9.56	0.493	CNO	1379176.1190	2266285.0850	2/22/2012	M. DeFriez, T. Barbee	CNO	CNO	Cross section on the Dolores River approximately 100 below the Silver Swan site. Flow measurement could not be obtained due to ice shelf over water.
DR-G	8.3	5.56	0.478	CNO	1364029.7850	2258752.9060	2/22/2012	M. DeFriez, T. Barbee	CNO	CNO	Cross section on the Dolores River at USGS gauging station #09165000, approximately 3.5 miles downstream of the Silver Swan site. Flow measurement could not be obtained due to ice shelf over water.
FB	6.3	4.67	0.0	CNO	N/A	N/A	2/22/2012	M. DeFriez, T. Barbee	NA	NA	Field blank
MW-1 SHALLOW	7.4	7.06	1.109	CNO	1387826.7470	2267944.5160	2/21/2012	M. DeFriez, T. Barbee	NA	NA	Both wells are located about 4 feet apart on the western embankment of Pond 13 at the division between Pond 11 and Pond 12.
MW-1 DEEP	7.14	5.50	1.174	CNO	1387829.4070	2267940.5680	2/21/2012	M. DeFriez, T. Barbee	NA	NA	
MW-2 SHALLOW	DRY WELL				1387829.7580	2267759.0810	2/21/2012	M. DeFriez, T. Barbee	NA	NA	Both wells are located about 4 feet apart on the western flood embankment of Pond 12, about mid-way along the pond.
MW-2 DEEP	7.81	12.78	1.089	CNO	1387836.0950	2267756.0910	2/21/2012	M. DeFriez, T. Barbee	NA	NA	MW-2 SHALLOW was dry
MW-3 SHALLOW	DRY WELL				1388308.0910	2267603.5420	2/21/2012	M. DeFriez, T. Barbee	NA	NA	Bothe wells are located about 4 feet apart on the western flood embankment of Pond 15, on the southern half of the embankment. MW-3 SHALLOW was dry.
MW-3 DEEP	7.2	10.06	1.089	CNO	1388313.2060	2267601.6050	2/21/2012	M. DeFriez, T. Barbee	NA	NA	
MW-4 SHALLOW	7.30	7.78	1.420	CNO	1387836.9670	2268221.9370	2/21/2012	M. DeFriez, T. Barbee	NA	NA	Both wells are located about 4 feet apart on the southern embankment of Pond 13, approximately 60 west of the main east access road.
MW-4 DEEP	6.64	8.89	1.438	CNO	1387839.1320	2268224.8950	2/21/2012	M. DeFriez, T. Barbee	NA	NA	
MW-5 SHALLOW	6.4	9.06	2.78	CNO	1388369.7050	2267814.3980	2/21/2012	M. DeFriez, T. Barbee	NA	NA	Both wells are located about 4 feet apart on the western dike of drying cell 3 (refer to Figure 2).
MW-5 DEEP	7.75	10.00	2.13	CNO	1388374.5740	2267813.8150	2/21/2012	M. DeFriez, T. Barbee	NA	NA	
MW-6 SHALLOW	6.4	9.56	2.06	CNO	1388166.1000	2268148.1000	2/21/2012	M. DeFriez, T. Barbee	NA	NA	Both wells are located about 4 feet apart on northern embankment of Pond 13, approximately 75 feet west of the main east access road
MW-6 DEEP	6.7	9.67	1.253	CNO	1388165.5290	2268153.3270	2/21/2012	M. DeFriez, T. Barbee	NA	NA	

TABLE 4 - Analytical Sampling Results Summary February 2012

Metals (ug/L)																									Non-Metals (mg/L, unless otherwise indicated)						Field Parameters					
DR-1: Delores River above St. Louis settling pond system		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO ₃)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
DR-1	2/22/12	Total	22.0	<0.50	<0.50	<0.50	71.5	<0.20	<0.080	48600	1.5	<0.50	<50.0	-	7340	18.4	<0.20	<0.50	670	0.52	<0.50	3370	<0.10	<5.0	108	152000	187	<5.0	<0.0050	204	76.3	8.2	2.33	0.298	CNO	
DR-1 D	2/22/12	Dissolved	<4.0	<0.50	<0.50	<0.50	71.1	-	<0.080	52300	<0.50	0.88	<50.0	<0.10	6910	16.8	<0.20	<0.50	690	<0.50	<0.50	3460	<0.10	<5.0	108	152000	187	<5.0	<0.0050	204	76.3	8.2	2.33	0.298	CNO	
DR-2: Delores River immediately above the St. Louis settling pond system outfall		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO ₃)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
DR-2	2/22/12	Total	12.2	<0.50	<0.50	<0.50	67.5	<0.20	<0.080	58300	0.78	<0.50	52.8	-	8450	198	<0.20	<0.50	813	<0.50	<0.50	3900	<0.10	<5.0	74	112	180000	236	<5.0	<0.0050	256	80.5	7.9	6.06	0.346	CNO
DR-2 D	2/22/12	Dissolved	5.0	<0.50	<0.50	<0.50	66.5	-	<0.080	63350	0.94	2.3	<50.0	0.12	7950	208	<0.20	2.2	845	<0.50	<0.50	3850	<0.10	<5.0	11.4	112	180000	236	<5.0	<0.0050	256	80.5	7.9	6.06	0.346	CNO
DR-3: St. Louis tunnel discharge at adit		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO ₃)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
DR-3	2/22/12	Total	611	<0.50	1.1	19.9	0.82	14.8	234000	0.87	103	8000	-	19400	2030	<0.20	5.0	1600	<0.50	<0.50	10900	<0.10	<5.0	3310	104	665000	1040	23.0	<0.0050	802	994	7.0	15.2	1.220	CNO	
DR-3 D	2/22/12	Dissolved	24.1	<0.50	<0.50	20.9	-	14.4	237000	1.8	7.3	1990	<0.10	19100	2090	<0.20	5.8	1720	<0.50	<0.50	11000	<0.10	<5.0	2960	104	665000	1040	23.0	<0.0050	802	994	7.0	15.2	1.220	CNO	
DR-4: Discharge of Pond 15		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO ₃)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
DR-4	2/22/12	Total	496	<0.50	0.90	20.7	0.57	14.4	242000	0.78	81.7	6660	-	20400	1920	<0.20	5.2	1670	<0.50	<0.50	11500	<0.10	<5.0	3090	98.0	687000	1020	16.0	<0.0050	840	965	7.9	11.39	1.126	CNO	
DR-4 D	2/22/12	Dissolved	4.2	<0.50	<0.50	19.0	-	10.3	228000	0.63	1.7	<50.0	<0.10	18000	1910	<0.20	4.9	1690	<0.50	<0.50	10400	<0.10	<5.0	2100	98.0	687000	1020	16.0	<0.0050	840	965	7.9	11.39	1.126	CNO	
DR-5: Discharge of Pond 8		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO ₃)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
DR-5	2/22/12	Total	262	<0.50	0.51	19.9	0.37	12.3	244000	0.60	43.5	4290	-	21200	1990	<0.20	4.6	1870	<0.50	<0.50	11700	<0.10	<5.0	2820	118	696000	1020	12.0	<0.0050	843	947	7.0	6.78	1.175	CNO	
DR-5 D	2/22/12	Dissolved	5.0	<0.50	<0.50	18.8	-	9.7	234000	<0.50	1.9	365	<0.10	18600	1960	<0.20	4.5	1890	<0.50	<0.50	10400	<0.10	<5.0	2060	118	696000	1020	12.0	<0.0050	843	947	7.0	6.78	1.175	CNO	
DR-6: St. Louis settling pond system outfall to the Delores River (Outfall 002)		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO ₃)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
DR-6	2/22/12	Total	137	<0.50	<0.50	19.7	0.24	10.8	250000	0.52	22.8	2490	-	24200	1980	<0.20	4.4	2340	<0.50	<0.50	15700	<0.10	<5.0	2410	142	724000	1050	13.0	<0.0050	817	976	7.1	7.94	1.188	CNO	
DR-6 D	2/22/12	Dissolved	6.5	<0.50	<0.50	18.4	-	9.0	234000	<0.50	1.3	239	<0.10	18600	1900	<0.20	4.4	2310	<0.50	<0.50	11300	<0.10	<5.0	2020	142	724000	1050	13.0	<0.0050	817	976	7.1	7.94	1.188	CNO	
DR-7: Delores River below St. Louis settling pond system outfall		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO ₃)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
DR-7	2/22/12	Total	64.9	<0.50	1.3	62.4	<0.20	1.4	100000	0.53	7.4	1100	-	14000	426	<0.20	0.69	2130	0.50	<0.50	8060	<0.10	<5.0	291	158	309000	452	9.0	<0.0050	403	165	7.30	6.78	0.559	CNO	
DR-7 D	2/22/12	Dissolved	4.7	<0.50	0.85	59.6	-	1.0	99700	0.87	2.8	147	<0.10	13300	417	<0.20	3.8	2060	<0.50	<0.50	6990	<0.10	<5.0	231	158	309000										

TABLE 4a - Monitoring Well Analytical Sampling Results Summary February 2012

		Metals (ug/L)																				Non-Metals (mg/L, unless otherwise indicated)										Field Parameters				
MW-1 SHALLOW	DEPTH: 6.34'	Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
MW-1 SHALLOW	2/21/12	Total	9210	0.54	11.8	146	0.65	1.1	229000	10.8	41.9	14100	-	26200	546	<0.20	7.7	3540	17.2	<0.50	10200	0.31	14.6	181	80.0	679000	927	223	<0.0050	774	897	7.4	7.06	1.109	CNO	
MW-1 SHALLOW Dissolved	2/21/12	Dissolved	5.1	<0.50	<0.50	18.3	-	0.31	244000	0.97	2.8	1160	<0.10	20100	10.8	<0.20	0.81	1310	13.8	<0.50	9860	<0.10	<0.10	54.4												
MW-1 DEEP	DEPTH: 9.13'	Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
MW-1 DEEP	2/21/12	Total	59.3	<0.50	<0.50	14.1	<0.20	2.1	229000	1.2	4.7	121	-	20300	19.5	<0.20	0.84	1370	7.4	<0.50	10800	<0.10	0.10	553	88.0	655000	868	<5.0	<0.0050	779	631	7.14	5.50	1.174	CNO	
MW-1 DEEP Dissolved	2/21/12	Dissolved	4.1	<0.50	<0.50	12.4	-	2.0	234000	0.73	3.4	<50.0	0.10	19400	1.2	<0.20	0.94	1360	7.2	<0.50	10500	<0.10	<0.10	517												
MW-2 SHALLOW	DEPTH: NA	Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
MW-2 SHALLOW	2/21/12	Total																																		
MW-2 SHALLOW Dissolved	2/21/12	Dissolved																																		
MW-2 DEEP	DEPTH: 10.22'	Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
MW-2 DEEP	2/21/12	Total	860	<0.50	0.82	23.9	<0.20	0.96	227000	1.8	5.0	1340	-	21000	20.2	<0.20	0.65	1970	1.5	<0.50	10700	<0.10	1.2	32.7	80.0	652000	919	40.0	<0.0050	801	618	7.81	12.78	1.089	CNO	
MW-2 DEEP Dissolved	2/21/12	Dissolved	7.5	<0.50	<0.50	12.2	-	0.88	241000	0.67	1.7	<50.0	0.10	20400	1.5	<0.20	<0.50	1760	1.4	<0.50	10800	<0.10	<0.10	20.5												
MW-3 SHALLOW	DEPTH: NA	Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
MW-3 SHALLOW	2/21/12	Total																																		
MW-3 SHALLOW Dissolved	2/21/12	Dissolved																																		
MW-3 DEEP	DEPTH: 10.35'	Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
MW-3 DEEP	2/21/12	Total	160	<0.50	5.8	20.5	<0.20	0.15	218000	0.81	0.92	21800	-	24200	1300	<0.20	1.50	2040	<0.50	<0.50	9400	<0.10	0.37	121	94.0	643000	892	30.0	<0.0050	827	609	7.2	10.06	1.089	CNO	
MW-3 DEEP Dissolved	2/21/12	Dissolved	8.8	<0.50	0.56	14.6	-	<0.080	233000	0.55	1.6	1400	0.15	21200	1220	<0.20	2.2	2080	<0.50	<0.50	9890	<0.10	<0.10	43.6												
MW-4 SHALLOW	DEPTH: 17.05'	Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
MW-4 SHALLOW	2/21/12	Total	46400	<0.50	33.1	1050	3.2	4.0	319000	49.3	240	62500	-	51000	3570	<0.20	41.6	11100	20.0	2.7	9640	0.90	57.7	854	410	101000	992	1580	<0.0050	933	453	7.3	7.78	1.420	CNO	
MW-4 SHALLOW Dissolved	2/21/12	Dissolved	722	<0.50	0.69	70.8	-	1.1	286000	1.4	6.4	720	3.7	30000	1670	<0.20	6.4	4020	13.0	<0.50	9560	<0.10	1.0	97.9												
MW-4 DEEP	DEPTH: 16.96'	Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)
MW-4 DEEP	2/21/12	Total	357	<0.50	0.78	22.0	<0.20	2.7	317000	1.1	7.8	737	-	34200	57.2	<0.20	0.98	2540	27.9	<0.50	5600	<0.10	0.64	405	424	932000	1060	11.0	<0.0050	920	475	6.64	8.89	1.438	CNO	
MW-4 DEEP Dissolved	2/21/12	Dissolved	56.2	<0.50	<0.50	18.6	-	2.7	286000	0.85	6.6	488	0.15	31500	25.7	<0.20	3.2	2450	28.8	<0.50	5910	<0.10	<0.10	420												
MW-5 SHALLOW	DEPTH: 16.80'	Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity					

Appendix C

Project Narrative and Laboratory Analytical Reports

March 16, 2012

Mark DeFriez
Anderson Engineering Company I
977 W 2100 S.
Salt Lake City, UT 84119

RE: Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Dear Mark DeFriez:

Enclosed are the analytical results for sample(s) received by the laboratory on February 24, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather Wilson

heather.wilson@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: RICO FEBRUARY 2012 WATER SAMP
 Pace Project No.: 60115895

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
 A2LA Certification #: 2926.01
 Alaska Certification #: UST-078
 Alaska Certification #MN00064
 Arizona Certification #: AZ-0014
 Arkansas Certification #: 88-0680
 California Certification #: 01155CA
 EPA Region 8 Certification #: Pace
 Florida/NELAP Certification #: E87605
 Georgia Certification #: 959
 Idaho Certification #: MN00064
 Illinois Certification #: 200011
 Iowa Certification #: 368
 Kansas Certification #: E-10167
 Louisiana Certification #: 03086
 Louisiana Certification #: LA080009
 Maine Certification #: 2007029
 Maryland Certification #: 322
 Michigan DEQ Certification #: 9909
 Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace
 Montana Certification #: MT CERT0092
 Nevada Certification #: MN_00064
 Nebraska Certification #: Pace
 New Jersey Certification #: MN-002
 New Mexico Certification #: Pace
 New York Certification #: 11647
 North Carolina Certification #: 530
 North Dakota Certification #: R-036
 North Dakota Certification #: R-036A
 Ohio VAP Certification #: CL101
 Oklahoma Certification #: D9921
 Oklahoma Certification #: 9507
 Oregon Certification #: MN200001
 Pennsylvania Certification #: 68-00563
 Puerto Rico Certification
 Tennessee Certification #: 02818
 Texas Certification #: T104704192
 Washington Certification #: C754
 Wisconsin Certification #: 999407970

Montana Certification IDs

602 South 25th Street, Billings, MT 59101
 EPA Region 8 Certification #: 8TMS-Q
 Idaho Certification #: MT00012

Montana Certification #: MT CERT0040
 NVLAP Certification #: 101292-0
 Minnesota Dept of Health Certification #: 030-999-442

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
 A2LA Certification #: 2456.01
 Arkansas Certification #: 05-008-0
 Illinois Certification #: 001191
 Iowa Certification #: 118
 Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055
 Nevada Certification #: KS000212008A
 Oklahoma Certification #: 9205/9935
 Texas Certification #: T104704407-08-TX
 Utah Certification #: 9135995665

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60115895001	DR-1	Water	02/22/12 09:00	02/24/12 09:10
60115895002	DR-2	Water	02/22/12 12:40	02/24/12 09:10
60115895003	DR-3	Water	02/22/12 09:30	02/24/12 09:10
60115895004	DR-4	Water	02/22/12 11:00	02/24/12 09:10
60115895005	DR-5	Water	02/22/12 12:20	02/24/12 09:10
60115895006	DR-6	Water	02/22/12 12:00	02/24/12 09:10
60115895007	DR-7	Water	02/22/12 13:30	02/24/12 09:10
60115895008	DR-8	Water	02/22/12 09:35	02/24/12 09:10
60115895009	DR-4-SW	Water	02/22/12 16:00	02/24/12 09:10
60115895010	DR-G	Water	02/22/12 04:30	02/24/12 09:10
60115895011	FB	Water	02/22/12 09:45	02/24/12 09:10
60115895012	GW-3	Water	02/22/12 10:00	02/24/12 09:10
60115895013	GW-5	Water	02/22/12 10:30	02/24/12 09:10
60115895014	GW-7	Water	02/22/12 11:15	02/24/12 09:10
60115895015	EB-1	Water	02/22/12 10:40	02/24/12 09:10
60115895016	EB-2	Water	02/22/12 13:00	02/24/12 09:10
60115895017	MW-1 SHALLOW	Water	02/21/12 12:25	02/24/12 09:10
60115895018	MW-1 DEEP	Water	02/21/12 12:30	02/24/12 09:10
60115895019	MW-2 DEEP	Water	02/21/12 12:10	02/24/12 09:10
60115895020	MW-3 DEEP	Water	02/21/12 15:05	02/24/12 09:10
60115895021	MW-4 SHALLOW	Water	02/21/12 11:40	02/24/12 09:10
60115895022	MW-4 DEEP	Water	02/21/12 11:45	02/24/12 09:10
60115895023	MW-5 SHALLOW	Water	02/21/12 14:20	02/24/12 09:10
60115895024	MW-5 DEEP	Water	02/21/12 14:45	02/24/12 09:10
60115895025	MW-6 SHALLOW	Water	02/21/12 09:00	02/24/12 09:10
60115895026	MW-6 DEEP	Water	02/21/12 09:10	02/24/12 09:10

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SAMPLE ANALYTE COUNT

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60115895001	DR-1	EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
60115895002	DR-2	EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	CMG	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
60115895003	DR-3	SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	CMG	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
60115895004	DR-4	SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	CMG	1	PASI-K
		EPA 200.8	TL1	21	PASI-M

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SAMPLE ANALYTE COUNT

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60115895005	DR-5	EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	CMG	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
60115895006	DR-6	EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	CMG	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
60115895007	DR-7	SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Lab ID	Sample ID	Method	Analysts	Analytics Reported	Laboratory
60115895008	DR-8	EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	CMG	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
60115895009	DR-4-SW	SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	CMG	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
60115895010	DR-G	SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	CMG	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M

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SAMPLE ANALYTE COUNT

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60115895011	FB	EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	CMG	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
60115895012	GW-3	Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	CMG	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
60115895013	GW-5	SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	CMG	1	PASI-K
		EPA 200.8	TL1	21	PASI-M

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SAMPLE ANALYTE COUNT

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60115895014	GW-7	SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	CMG	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
60115895015	EB-1	SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	CMG	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
60115895016	EB-2	SM 4500-CN-E	CMG	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	

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SAMPLE ANALYTE COUNT

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60115895017	MW-1 SHALLOW	Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	CMG	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
60115895018	MW-1 DEEP	EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	CMG	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	OL	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
60115895019	MW-2 DEEP	SM 2510B	DW2	1	
		Calculated	DW2	2	

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SAMPLE ANALYTE COUNT

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60115895020	MW-3 DEEP	SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	OL	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	TL1	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	OL	1	PASI-K
60115895021	MW-4 SHALLOW	EPA 200.8	TL1	21	PASI-M
		EPA 200.8	TL1	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	OL	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	TL1	20	PASI-M
60115895022	MW-4 DEEP	EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		EPA 200.8	TL1	20	PASI-M
		EPA 200.8	TL1	21	PASI-M
		EPA 245.1	TEM	1	PASI-M

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SAMPLE ANALYTE COUNT

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Lab ID	Sample ID	Method	Analysts	Analytics Reported	Laboratory
60115895023	MW-5 SHALLOW	SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	OL	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	TL1	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
60115895024	MW-5 DEEP	SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	OL	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
60115895025	MW-6 SHALLOW	SM 4500-CN-E	OL	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	RJS, TL1	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60115895026	MW-6 DEEP	SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	OL	1	PASI-K
		EPA 200.8	TL1	21	PASI-M
		EPA 200.8	TL1	20	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2510B	DW2	1	
		Calculated	DW2	2	
		SM 2320B	AJM	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	CMG	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	OL	1	PASI-K

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PROJECT NARRATIVE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Method: **EPA 200.8**

Description: 200.8 MET ICPMS

Client: BP Anderson Engineering Company Inc.

Date: March 16, 2012

General Information:

26 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: ICPM/31101

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60115895001,60115895011

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1146835)
 - Calcium
- MS (Lab ID: 1146837)
 - Calcium
- MSD (Lab ID: 1146836)
 - Calcium

QC Batch: ICPM/31106

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10184095002,60115895021

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1146872)
 - Aluminum
 - Antimony
 - Calcium
 - Iron
 - Manganese
 - Sodium

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PROJECT NARRATIVE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Method: **EPA 200.8**

Description: 200.8 MET ICPMS

Client: BP Anderson Engineering Company Inc.

Date: March 16, 2012

QC Batch: ICPM/31106

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10184095002,60115895021

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1146874)
 - Calcium
 - Magnesium
 - Sodium
- MSD (Lab ID: 1146873)
 - Aluminum
 - Antimony
 - Barium
 - Calcium
 - Iron
 - Magnesium
 - Manganese
 - Potassium
 - Zinc

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Method: **EPA 200.8**

Description: 200.8 MET ICPMS, Dissolved

Client: BP Anderson Engineering Company Inc.

Date: March 16, 2012

General Information:

26 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: ICPM/31105

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10183973006,60115895024

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1146867)
 - Aluminum, Dissolved
 - Barium, Dissolved
 - Calcium, Dissolved
 - Magnesium, Dissolved
 - Potassium, Dissolved
 - Sodium, Dissolved
 - Thallium, Dissolved
- MSD (Lab ID: 1146868)
 - Aluminum, Dissolved
 - Barium, Dissolved
 - Calcium, Dissolved
 - Magnesium, Dissolved
 - Potassium, Dissolved
 - Sodium, Dissolved
 - Thallium, Dissolved

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PROJECT NARRATIVE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Method: **EPA 200.8**

Description: 200.8 MET ICPMS, Dissolved

Client: BP Anderson Engineering Company Inc.

Date: March 16, 2012

QC Batch: ICPM/31104

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60115796001,60115895010

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1146862)
 - Iron, Dissolved
 - Magnesium, Dissolved
 - Manganese, Dissolved
 - Nickel, Dissolved
 - Potassium, Dissolved
 - Sodium, Dissolved
 - Zinc, Dissolved
- MS (Lab ID: 1146864)
 - Manganese, Dissolved
- MSD (Lab ID: 1146863)
 - Iron, Dissolved
 - Magnesium, Dissolved
 - Nickel, Dissolved
 - Potassium, Dissolved
 - Sodium, Dissolved
 - Zinc, Dissolved

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: ICPM/31105

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 1146869)
 - Calcium, Dissolved
 - Manganese, Dissolved
 - Zinc, Dissolved

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PROJECT NARRATIVE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Method: **EPA 245.1**

Description: 245.1 Mercury

Client: BP Anderson Engineering Company Inc.

Date: March 16, 2012

General Information:

26 samples were analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MERC/6515

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10184104004,60115895021

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 1147198)
- Mercury

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Method: **EPA 245.1**

Description: 245.1 Mercury, Dissolved

Client: BP Anderson Engineering Company Inc.

Date: March 16, 2012

General Information:

26 samples were analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Method: **SM 2510B**

Description: 2510B Specific Conductance

Client: BP Anderson Engineering Company Inc.

Date: March 16, 2012

General Information:

26 samples were analyzed for SM 2510B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Method: Calculated

Description: Salinity

Client: BP Anderson Engineering Company Inc.

Date: March 16, 2012

General Information:

26 samples were analyzed for Calculated. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Method: **SM 2320B**

Description: 2320B Alkalinity

Client: BP Anderson Engineering Company Inc.

Date: March 16, 2012

General Information:

26 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Method: **SM 2540C**

Description: 2540C Total Dissolved Solids

Client: BP Anderson Engineering Company Inc.

Date: March 16, 2012

General Information:

26 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Method: **SM 2540D**

Description: 2540D Total Suspended Solids

Client: BP Anderson Engineering Company Inc.

Date: March 16, 2012

General Information:

26 samples were analyzed for SM 2540D. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: WET/33685

R1: RPD value was outside control limits.

- DUP (Lab ID: 957354)
- Total Suspended Solids

Additional Comments:

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PROJECT NARRATIVE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Method: **SM 4500-H+B**

Description: 4500H+ pH, Electrometric

Client: BP Anderson Engineering Company Inc.

Date: March 16, 2012

General Information:

26 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated more than 15 minutes after sample collection.

- DR-1 (Lab ID: 60115895001)
- DR-2 (Lab ID: 60115895002)
- DR-3 (Lab ID: 60115895003)
- DR-4 (Lab ID: 60115895004)
- DR-4-SW (Lab ID: 60115895009)
- DR-5 (Lab ID: 60115895005)
- DR-6 (Lab ID: 60115895006)
- DR-7 (Lab ID: 60115895007)
- DR-8 (Lab ID: 60115895008)
- DR-G (Lab ID: 60115895010)
- EB-1 (Lab ID: 60115895015)
- EB-2 (Lab ID: 60115895016)
- FB (Lab ID: 60115895011)
- GW-3 (Lab ID: 60115895012)
- GW-5 (Lab ID: 60115895013)
- GW-7 (Lab ID: 60115895014)
- MW-1 DEEP (Lab ID: 60115895018)
- MW-1 SHALLOW (Lab ID: 60115895017)
- MW-2 DEEP (Lab ID: 60115895019)
- MW-3 DEEP (Lab ID: 60115895020)
- MW-4 DEEP (Lab ID: 60115895022)
- MW-4 SHALLOW (Lab ID: 60115895021)
- MW-5 DEEP (Lab ID: 60115895024)
- MW-5 SHALLOW (Lab ID: 60115895023)
- MW-6 DEEP (Lab ID: 60115895026)
- MW-6 SHALLOW (Lab ID: 60115895025)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

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PROJECT NARRATIVE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: BP Anderson Engineering Company Inc.
Date: March 16, 2012

Additional Comments:

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PROJECT NARRATIVE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Method: **EPA 300.0**

Description: 300.0 IC Anions 28 Days

Client: BP Anderson Engineering Company Inc.

Date: March 16, 2012

General Information:

26 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/19392

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60115895001,60115895010

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MSD (Lab ID: 960064)
- Sulfate

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Method: **SM 4500-CN-E**

Description: 4500CNE Cyanide, Total

Client: BP Anderson Engineering Company Inc.

Date: March 16, 2012

General Information:

26 samples were analyzed for SM 4500-CN-E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/19389

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60116100001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 959977)
- Cyanide

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Sample: DR-1	Lab ID: 60115895001	Collected: 02/22/12 09:00	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	22.0 ug/L		4.0	1	02/29/12 06:47	03/06/12 13:32	7429-90-5	
Antimony	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 13:32	7440-36-0	
Arsenic	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 13:32	7440-38-2	
Barium	71.5 ug/L		0.30	1	02/29/12 06:47	03/06/12 13:32	7440-39-3	
Beryllium	ND ug/L		0.20	1	02/29/12 06:47	03/06/12 13:32	7440-41-7	
Cadmium	ND ug/L		0.080	1	02/29/12 06:47	03/06/12 13:32	7440-43-9	
Calcium	48600 ug/L		100	5	02/29/12 06:47	03/07/12 13:29	7440-70-2	M1
Chromium	1.5 ug/L		0.50	1	02/29/12 06:47	03/06/12 13:32	7440-47-3	
Copper	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 13:32	7440-50-8	
Iron	ND ug/L		50.0	1	02/29/12 06:47	03/06/12 13:32	7439-89-6	
Magnesium	7340 ug/L		5.0	1	02/29/12 06:47	03/06/12 13:32	7439-95-4	
Manganese	18.4 ug/L		0.50	1	02/29/12 06:47	03/06/12 13:32	7439-96-5	
Nickel	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 13:32	7440-02-0	
Potassium	670 ug/L		20.0	1	02/29/12 06:47	03/07/12 13:19	7440-09-7	
Selenium	0.52 ug/L		0.50	1	02/29/12 06:47	03/06/12 13:32	7782-49-2	
Silver	ND ug/L		0.50	1	02/29/12 06:47	03/07/12 13:19	7440-22-4	
Sodium	3370 ug/L		50.0	1	02/29/12 06:47	03/06/12 13:32	7440-23-5	
Thallium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 13:32	7440-28-0	
Total Hardness by 2340B	152000 ug/L		355	5	02/29/12 06:47	03/07/12 13:29		
Vanadium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 13:32	7440-62-2	
Zinc	ND ug/L		5.0	1	02/29/12 06:47	03/06/12 13:32	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	ND ug/L		4.0	1	02/29/12 11:02	03/02/12 17:48	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 16:53	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 16:53	7440-38-2	
Barium, Dissolved	71.1 ug/L		0.30	1	02/29/12 11:02	03/05/12 16:53	7440-39-3	
Cadmium, Dissolved	ND ug/L		0.080	1	02/29/12 11:02	03/05/12 16:53	7440-43-9	
Calcium, Dissolved	52300 ug/L		100	5	02/29/12 11:02	03/06/12 13:24	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 16:53	7440-47-3	
Copper, Dissolved	0.88 ug/L		0.50	1	02/29/12 11:02	03/05/12 16:53	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	02/29/12 11:02	03/05/12 16:53	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 16:53	7439-92-1	
Magnesium, Dissolved	6910 ug/L		5.0	1	02/29/12 11:02	03/02/12 17:48	7439-95-4	
Manganese, Dissolved	16.8 ug/L		0.50	1	02/29/12 11:02	03/05/12 16:53	7439-96-5	
Nickel, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 16:53	7440-02-0	
Potassium, Dissolved	690 ug/L		20.0	1	02/29/12 11:02	03/05/12 16:53	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/02/12 17:48	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 16:53	7440-22-4	
Sodium, Dissolved	3460 ug/L		50.0	1	02/29/12 11:02	03/02/12 17:48	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 16:53	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 16:53	7440-62-2	
Zinc, Dissolved	ND ug/L		5.0	1	02/29/12 11:02	03/05/12 16:53	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:45	03/06/12 09:55	7439-97-6	

Date: 03/16/2012 01:19 PM

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: DR-1	Lab ID: 60115895001	Collected: 02/22/12 09:00	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:33	03/06/12 08:51	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	319	umhos/cm	10.0	1		03/05/12 14:23		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	204	mg/L	6.0	1		03/05/12 14:23		
Salinity (as seawater)	0.15	PSU	0.010	1		03/05/12 14:23		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	108	mg/L	20.0	1		03/02/12 14:30		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/02/12 14:30		
Alkalinity, Total as CaCO3	108	mg/L	20.0	1		03/02/12 14:30		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	187	mg/L	5.0	1		02/29/12 13:04		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		02/28/12 14:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	8.2	Std. Units	0.10	1		02/25/12 07:30		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	76.3	mg/L	5.0	5		03/06/12 16:14	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		02/29/12 16:48	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Sample: DR-2	Lab ID: 60115895002	Collected: 02/22/12 12:40	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	12.2 ug/L		4.0	1	02/29/12 06:47	03/06/12 13:42	7429-90-5	
Antimony	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 13:42	7440-36-0	
Arsenic	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 13:42	7440-38-2	
Barium	67.5 ug/L		0.30	1	02/29/12 06:47	03/06/12 13:42	7440-39-3	
Beryllium	ND ug/L		0.20	1	02/29/12 06:47	03/06/12 13:42	7440-41-7	
Cadmium	ND ug/L		0.080	1	02/29/12 06:47	03/06/12 13:42	7440-43-9	
Calcium	58300 ug/L		400	20	02/29/12 06:47	03/07/12 13:09	7440-70-2	
Chromium	0.78 ug/L		0.50	1	02/29/12 06:47	03/06/12 13:42	7440-47-3	
Copper	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 13:42	7440-50-8	
Iron	52.8 ug/L		50.0	1	02/29/12 06:47	03/06/12 13:42	7439-89-6	
Magnesium	8450 ug/L		5.0	1	02/29/12 06:47	03/06/12 13:42	7439-95-4	
Manganese	198 ug/L		0.50	1	02/29/12 06:47	03/06/12 13:42	7439-96-5	
Nickel	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 13:42	7440-02-0	
Potassium	813 ug/L		20.0	1	02/29/12 06:47	03/07/12 13:05	7440-09-7	
Selenium	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 13:42	7782-49-2	
Silver	ND ug/L		0.50	1	02/29/12 06:47	03/07/12 13:05	7440-22-4	
Sodium	3900 ug/L		50.0	1	02/29/12 06:47	03/06/12 13:42	7440-23-5	
Thallium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 13:42	7440-28-0	
Total Hardness by 2340B	180000 ug/L		1420	20	02/29/12 06:47	03/07/12 13:09		
Vanadium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 13:42	7440-62-2	
Zinc	7.4 ug/L		5.0	1	02/29/12 06:47	03/06/12 13:42	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	5.0 ug/L		4.0	1	02/29/12 11:02	03/02/12 17:57	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:27	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:27	7440-38-2	
Barium, Dissolved	66.5 ug/L		0.30	1	02/29/12 11:02	03/05/12 17:27	7440-39-3	
Cadmium, Dissolved	ND ug/L		0.080	1	02/29/12 11:02	03/05/12 17:27	7440-43-9	
Calcium, Dissolved	63500 ug/L		100	5	02/29/12 11:02	03/06/12 13:38	7440-70-2	
Chromium, Dissolved	0.94 ug/L		0.50	1	02/29/12 11:02	03/05/12 17:27	7440-47-3	
Copper, Dissolved	2.3 ug/L		0.50	1	02/29/12 11:02	03/05/12 17:27	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	02/29/12 11:02	03/05/12 17:27	7439-89-6	
Lead, Dissolved	0.12 ug/L		0.10	1	02/29/12 11:02	03/05/12 17:27	7439-92-1	
Magnesium, Dissolved	7960 ug/L		5.0	1	02/29/12 11:02	03/02/12 17:57	7439-95-4	
Manganese, Dissolved	208 ug/L		0.50	1	02/29/12 11:02	03/05/12 17:27	7439-96-5	
Nickel, Dissolved	2.2 ug/L		0.50	1	02/29/12 11:02	03/05/12 17:27	7440-02-0	
Potassium, Dissolved	845 ug/L		20.0	1	02/29/12 11:02	03/05/12 17:27	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/02/12 17:57	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:27	7440-22-4	
Sodium, Dissolved	3850 ug/L		50.0	1	02/29/12 11:02	03/02/12 17:57	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 17:27	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 17:27	7440-62-2	
Zinc, Dissolved	11.4 ug/L		5.0	1	02/29/12 11:02	03/02/12 17:57	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:45	03/06/12 09:57	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: DR-2	Lab ID: 60115895002	Collected: 02/22/12 12:40	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:33	03/06/12 08:58	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	401	umhos/cm	10.0	1		03/05/12 14:25		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	256	mg/L	6.0	1		03/05/12 14:25		
Salinity (as seawater)	0.19	PSU	0.010	1		03/05/12 14:25		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	112	mg/L	20.0	1		03/02/12 14:30		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/02/12 14:30		
Alkalinity, Total as CaCO3	112	mg/L	20.0	1		03/02/12 14:30		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	236	mg/L	5.0	1		02/29/12 13:04		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		02/28/12 14:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.9	Std. Units	0.10	1		02/25/12 07:30		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	80.5	mg/L	10.0	10		03/07/12 11:04	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		02/29/12 16:51	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Sample: DR-3	Lab ID: 60115895003	Collected: 02/22/12 09:30	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	611 ug/L		4.0	1	02/29/12 06:47	03/06/12 13:49	7429-90-5	
Antimony	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 13:49	7440-36-0	
Arsenic	1.1 ug/L		0.50	1	02/29/12 06:47	03/06/12 13:49	7440-38-2	
Barium	19.9 ug/L		0.30	1	02/29/12 06:47	03/06/12 13:49	7440-39-3	
Beryllium	0.82 ug/L		0.20	1	02/29/12 06:47	03/06/12 13:49	7440-41-7	
Cadmium	14.8 ug/L		0.080	1	02/29/12 06:47	03/06/12 13:49	7440-43-9	
Calcium	234000 ug/L		400	20	02/29/12 06:47	03/07/12 13:16	7440-70-2	
Chromium	0.87 ug/L		0.50	1	02/29/12 06:47	03/06/12 13:49	7440-47-3	
Copper	103 ug/L		0.50	1	02/29/12 06:47	03/06/12 13:49	7440-50-8	
Iron	8000 ug/L		50.0	1	02/29/12 06:47	03/06/12 13:49	7439-89-6	
Magnesium	19400 ug/L		5.0	1	02/29/12 06:47	03/06/12 13:49	7439-95-4	
Manganese	2030 ug/L		10.0	20	02/29/12 06:47	03/06/12 14:13	7439-96-5	
Nickel	5.0 ug/L		0.50	1	02/29/12 06:47	03/06/12 13:49	7440-02-0	
Potassium	1600 ug/L		20.0	1	02/29/12 06:47	03/07/12 13:12	7440-09-7	
Selenium	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 13:49	7782-49-2	
Silver	ND ug/L		0.50	1	02/29/12 06:47	03/07/12 13:12	7440-22-4	
Sodium	10900 ug/L		50.0	1	02/29/12 06:47	03/06/12 13:49	7440-23-5	
Thallium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 13:49	7440-28-0	
Total Hardness by 2340B	665000 ug/L		1420	20	02/29/12 06:47	03/07/12 13:16		
Vanadium	0.11 ug/L		0.10	1	02/29/12 06:47	03/06/12 13:49	7440-62-2	
Zinc	3310 ug/L		100	20	02/29/12 06:47	03/06/12 14:13	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	24.1 ug/L		4.0	1	02/29/12 11:02	03/02/12 18:06	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:36	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:36	7440-38-2	
Barium, Dissolved	20.9 ug/L		0.30	1	02/29/12 11:02	03/05/12 17:36	7440-39-3	
Cadmium, Dissolved	14.4 ug/L		0.080	1	02/29/12 11:02	03/05/12 17:36	7440-43-9	
Calcium, Dissolved	237000 ug/L		500	25	02/29/12 11:02	03/06/12 13:43	7440-70-2	
Chromium, Dissolved	1.8 ug/L		0.50	1	02/29/12 11:02	03/05/12 17:36	7440-47-3	
Copper, Dissolved	7.3 ug/L		0.50	1	02/29/12 11:02	03/05/12 17:36	7440-50-8	
Iron, Dissolved	1990 ug/L		50.0	1	02/29/12 11:02	03/05/12 17:36	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 17:36	7439-92-1	
Magnesium, Dissolved	19100 ug/L		5.0	1	02/29/12 11:02	03/02/12 18:06	7439-95-4	
Manganese, Dissolved	2080 ug/L		12.5	25	02/29/12 11:02	03/06/12 13:43	7439-96-5	
Nickel, Dissolved	5.8 ug/L		0.50	1	02/29/12 11:02	03/05/12 17:36	7440-02-0	
Potassium, Dissolved	1720 ug/L		20.0	1	02/29/12 11:02	03/05/12 17:36	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/02/12 18:06	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:36	7440-22-4	
Sodium, Dissolved	11000 ug/L		50.0	1	02/29/12 11:02	03/02/12 18:06	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 17:36	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 17:36	7440-62-2	
Zinc, Dissolved	2960 ug/L		125	25	02/29/12 11:02	03/06/12 13:43	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:45	03/06/12 10:04	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: DR-3	Lab ID: 60115895003	Collected: 02/22/12 09:30	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:33	03/06/12 09:00	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1250	umhos/cm	10.0	1		03/05/12 14:26		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	802	mg/L	6.0	1		03/05/12 14:26		
Salinity (as seawater)	0.62	PSU	0.010	1		03/05/12 14:26		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	104	mg/L	20.0	1		03/02/12 14:30		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/02/12 14:30		
Alkalinity, Total as CaCO3	104	mg/L	20.0	1		03/02/12 14:30		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	1040	mg/L	5.0	1		02/29/12 14:07		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	23.0	mg/L	5.0	1		02/28/12 14:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		02/25/12 07:30		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	994	mg/L	50.0	50		03/06/12 17:07	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		02/29/12 16:52	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Sample: DR-4	Lab ID: 60115895004	Collected: 02/22/12 11:00	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	496 ug/L		4.0	1	02/29/12 06:47	03/06/12 14:17	7429-90-5	
Antimony	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 14:17	7440-36-0	
Arsenic	0.90 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:17	7440-38-2	
Barium	20.7 ug/L		0.30	1	02/29/12 06:47	03/06/12 14:17	7440-39-3	
Beryllium	0.57 ug/L		0.20	1	02/29/12 06:47	03/06/12 14:17	7440-41-7	
Cadmium	14.4 ug/L		0.080	1	02/29/12 06:47	03/06/12 14:17	7440-43-9	
Calcium	242000 ug/L		400	20	02/29/12 06:47	03/07/12 13:46	7440-70-2	
Chromium	0.78 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:17	7440-47-3	
Copper	81.7 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:17	7440-50-8	
Iron	6660 ug/L		50.0	1	02/29/12 06:47	03/06/12 14:17	7439-89-6	
Magnesium	20400 ug/L		5.0	1	02/29/12 06:47	03/06/12 14:17	7439-95-4	
Manganese	1920 ug/L		10.0	20	02/29/12 06:47	03/06/12 14:20	7439-96-5	
Nickel	5.2 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:17	7440-02-0	
Potassium	1670 ug/L		20.0	1	02/29/12 06:47	03/07/12 13:43	7440-09-7	
Selenium	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 14:17	7782-49-2	
Silver	ND ug/L		0.50	1	02/29/12 06:47	03/07/12 13:43	7440-22-4	
Sodium	11500 ug/L		50.0	1	02/29/12 06:47	03/06/12 14:17	7440-23-5	
Thallium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 14:17	7440-28-0	
Total Hardness by 2340B	687000 ug/L		1420	20	02/29/12 06:47	03/07/12 13:46		
Vanadium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 14:17	7440-62-2	
Zinc	3090 ug/L		100	20	02/29/12 06:47	03/06/12 14:20	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	4.2 ug/L		4.0	1	02/29/12 11:02	03/02/12 18:49	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:46	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:46	7440-38-2	
Barium, Dissolved	19.0 ug/L		0.30	1	02/29/12 11:02	03/05/12 17:46	7440-39-3	
Cadmium, Dissolved	10.3 ug/L		0.080	1	02/29/12 11:02	03/05/12 17:46	7440-43-9	
Calcium, Dissolved	228000 ug/L		400	20	02/29/12 11:02	03/06/12 13:48	7440-70-2	
Chromium, Dissolved	0.63 ug/L		0.50	1	02/29/12 11:02	03/05/12 17:46	7440-47-3	
Copper, Dissolved	1.7 ug/L		0.50	1	02/29/12 11:02	03/05/12 17:46	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	02/29/12 11:02	03/05/12 17:46	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 17:46	7439-92-1	
Magnesium, Dissolved	18000 ug/L		5.0	1	02/29/12 11:02	03/02/12 18:49	7439-95-4	
Manganese, Dissolved	1910 ug/L		10.0	20	02/29/12 11:02	03/06/12 13:48	7439-96-5	
Nickel, Dissolved	4.9 ug/L		0.50	1	02/29/12 11:02	03/05/12 17:46	7440-02-0	
Potassium, Dissolved	1690 ug/L		20.0	1	02/29/12 11:02	03/05/12 17:46	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/02/12 18:49	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:46	7440-22-4	
Sodium, Dissolved	10400 ug/L		50.0	1	02/29/12 11:02	03/02/12 18:49	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 17:46	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 17:46	7440-62-2	
Zinc, Dissolved	2100 ug/L		100	20	02/29/12 11:02	03/06/12 13:48	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:45	03/06/12 10:06	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: DR-4	Lab ID: 60115895004	Collected: 02/22/12 11:00	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:33	03/06/12 09:02	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1310	umhos/cm	10.0	1		03/05/12 14:28		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	840	mg/L	6.0	1		03/05/12 14:28		
Salinity (as seawater)	0.65	PSU	0.010	1		03/05/12 14:28		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	98.0	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	98.0	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	1020	mg/L	5.0	1		02/29/12 14:07		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	16.0	mg/L	5.0	1		02/28/12 14:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.9	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	965	mg/L	50.0	50		03/06/12 17:20	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		02/29/12 16:52	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Sample: DR-5	Lab ID: 60115895005	Collected: 02/22/12 12:20	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	262 ug/L		4.0	1	02/29/12 06:47	03/06/12 14:23	7429-90-5	
Antimony	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 14:23	7440-36-0	
Arsenic	0.51 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:23	7440-38-2	
Barium	19.9 ug/L		0.30	1	02/29/12 06:47	03/06/12 14:23	7440-39-3	
Beryllium	0.37 ug/L		0.20	1	02/29/12 06:47	03/06/12 14:23	7440-41-7	
Cadmium	12.3 ug/L		0.080	1	02/29/12 06:47	03/06/12 14:23	7440-43-9	
Calcium	244000 ug/L		400	20	02/29/12 06:47	03/07/12 13:53	7440-70-2	
Chromium	0.60 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:23	7440-47-3	
Copper	43.5 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:23	7440-50-8	
Iron	4290 ug/L		50.0	1	02/29/12 06:47	03/06/12 14:23	7439-89-6	
Magnesium	21200 ug/L		5.0	1	02/29/12 06:47	03/06/12 14:23	7439-95-4	
Manganese	1990 ug/L		10.0	20	02/29/12 06:47	03/06/12 14:27	7439-96-5	
Nickel	4.6 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:23	7440-02-0	
Potassium	1870 ug/L		20.0	1	02/29/12 06:47	03/07/12 13:50	7440-09-7	
Selenium	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 14:23	7782-49-2	
Silver	ND ug/L		0.50	1	02/29/12 06:47	03/07/12 13:50	7440-22-4	
Sodium	11700 ug/L		50.0	1	02/29/12 06:47	03/06/12 14:23	7440-23-5	
Thallium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 14:23	7440-28-0	
Total Hardness by 2340B	696000 ug/L		1420	20	02/29/12 06:47	03/07/12 13:53		
Vanadium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 14:23	7440-62-2	
Zinc	2820 ug/L		100	20	02/29/12 06:47	03/06/12 14:27	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	5.0 ug/L		4.0	1	02/29/12 11:02	03/02/12 19:21	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:55	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:55	7440-38-2	
Barium, Dissolved	18.8 ug/L		0.30	1	02/29/12 11:02	03/05/12 17:55	7440-39-3	
Cadmium, Dissolved	9.7 ug/L		0.080	1	02/29/12 11:02	03/05/12 17:55	7440-43-9	
Calcium, Dissolved	234000 ug/L		400	20	02/29/12 11:02	03/06/12 13:52	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:55	7440-47-3	
Copper, Dissolved	1.9 ug/L		0.50	1	02/29/12 11:02	03/05/12 17:55	7440-50-8	
Iron, Dissolved	365 ug/L		50.0	1	02/29/12 11:02	03/05/12 17:55	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 17:55	7439-92-1	
Magnesium, Dissolved	18600 ug/L		5.0	1	02/29/12 11:02	03/02/12 19:21	7439-95-4	
Manganese, Dissolved	1960 ug/L		10.0	20	02/29/12 11:02	03/06/12 13:52	7439-96-5	
Nickel, Dissolved	4.5 ug/L		0.50	1	02/29/12 11:02	03/05/12 17:55	7440-02-0	
Potassium, Dissolved	1890 ug/L		20.0	1	02/29/12 11:02	03/05/12 17:55	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/02/12 19:21	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:55	7440-22-4	
Sodium, Dissolved	10400 ug/L		50.0	1	02/29/12 11:02	03/02/12 19:21	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 17:55	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 17:55	7440-62-2	
Zinc, Dissolved	2060 ug/L		100	20	02/29/12 11:02	03/06/12 13:52	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:45	03/06/12 10:12	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: DR-5	Lab ID: 60115895005	Collected: 02/22/12 12:20	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:33	03/06/12 09:04	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1320	umhos/cm	10.0	1		03/05/12 14:30		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	843	mg/L	6.0	1		03/05/12 14:30		
Salinity (as seawater)	0.66	PSU	0.010	1		03/05/12 14:30		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	118	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	118	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	1020	mg/L	5.0	1		02/29/12 14:07		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	12.0	mg/L	5.0	1		02/29/12 12:36		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	947	mg/L	50.0	50		03/06/12 17:34	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		02/29/12 16:55	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Sample: DR-6	Lab ID: 60115895006	Collected: 02/22/12 12:00	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	137 ug/L		4.0	1	02/29/12 06:47	03/06/12 14:30	7429-90-5	
Antimony	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 14:30	7440-36-0	
Arsenic	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 14:30	7440-38-2	
Barium	19.7 ug/L		0.30	1	02/29/12 06:47	03/06/12 14:30	7440-39-3	
Beryllium	0.24 ug/L		0.20	1	02/29/12 06:47	03/06/12 14:30	7440-41-7	
Cadmium	10.8 ug/L		0.080	1	02/29/12 06:47	03/06/12 14:30	7440-43-9	
Calcium	250000 ug/L		400	20	02/29/12 06:47	03/07/12 14:00	7440-70-2	
Chromium	0.52 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:30	7440-47-3	
Copper	22.8 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:30	7440-50-8	
Iron	2490 ug/L		50.0	1	02/29/12 06:47	03/06/12 14:30	7439-89-6	
Magnesium	24200 ug/L		100	20	02/29/12 06:47	03/06/12 14:34	7439-95-4	
Manganese	1950 ug/L		10.0	20	02/29/12 06:47	03/06/12 14:34	7439-96-5	
Nickel	4.4 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:30	7440-02-0	
Potassium	2340 ug/L		20.0	1	02/29/12 06:47	03/07/12 13:56	7440-09-7	
Selenium	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 14:30	7782-49-2	
Silver	ND ug/L		0.50	1	02/29/12 06:47	03/07/12 13:56	7440-22-4	
Sodium	13700 ug/L		50.0	1	02/29/12 06:47	03/06/12 14:30	7440-23-5	
Thallium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 14:30	7440-28-0	
Total Hardness by 2340B	724000 ug/L		1420	20	02/29/12 06:47	03/07/12 14:00		
Vanadium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 14:30	7440-62-2	
Zinc	2410 ug/L		100	20	02/29/12 06:47	03/06/12 14:34	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	6.5 ug/L		4.0	1	02/29/12 11:02	03/02/12 19:31	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:02	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:02	7440-38-2	
Barium, Dissolved	18.4 ug/L		0.30	1	02/29/12 11:02	03/05/12 17:02	7440-39-3	
Cadmium, Dissolved	9.0 ug/L		0.080	1	02/29/12 11:02	03/05/12 17:02	7440-43-9	
Calcium, Dissolved	234000 ug/L		400	20	02/29/12 11:02	03/06/12 13:57	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:02	7440-47-3	
Copper, Dissolved	1.3 ug/L		0.50	1	02/29/12 11:02	03/05/12 17:02	7440-50-8	
Iron, Dissolved	239 ug/L		50.0	1	02/29/12 11:02	03/05/12 17:02	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 17:02	7439-92-1	
Magnesium, Dissolved	18800 ug/L		5.0	1	02/29/12 11:02	03/02/12 19:31	7439-95-4	
Manganese, Dissolved	1900 ug/L		10.0	20	02/29/12 11:02	03/06/12 13:57	7439-96-5	
Nickel, Dissolved	4.4 ug/L		0.50	1	02/29/12 11:02	03/05/12 17:02	7440-02-0	
Potassium, Dissolved	2310 ug/L		20.0	1	02/29/12 11:02	03/05/12 17:02	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/02/12 19:31	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 17:02	7440-22-4	
Sodium, Dissolved	11300 ug/L		50.0	1	02/29/12 11:02	03/02/12 19:31	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 17:02	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 17:02	7440-62-2	
Zinc, Dissolved	2020 ug/L		100	20	02/29/12 11:02	03/06/12 13:57	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:45	03/06/12 10:14	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: DR-6	Lab ID: 60115895006	Collected: 02/22/12 12:00	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:33	03/06/12 09:10	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1280	umhos/cm	10.0	1		03/05/12 14:31		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	817	mg/L	6.0	1		03/05/12 14:31		
Salinity (as seawater)	0.64	PSU	0.010	1		03/05/12 14:31		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	142	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	142	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	1050	mg/L	5.0	1		02/29/12 14:07		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	13.0	mg/L	5.0	1		02/29/12 12:36		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	976	mg/L	50.0	50		03/06/12 17:47	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		02/29/12 16:55	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Sample: DR-7	Lab ID: 60115895007	Collected: 02/22/12 13:30	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	64.9 ug/L		4.0	1	02/29/12 06:47	03/06/12 14:37	7429-90-5	
Antimony	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 14:37	7440-36-0	
Arsenic	1.3 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:37	7440-38-2	
Barium	62.4 ug/L		0.30	1	02/29/12 06:47	03/06/12 14:37	7440-39-3	
Beryllium	ND ug/L		0.20	1	02/29/12 06:47	03/06/12 14:37	7440-41-7	
Cadmium	1.4 ug/L		0.080	1	02/29/12 06:47	03/06/12 14:37	7440-43-9	
Calcium	100000 ug/L		400	20	02/29/12 06:47	03/07/12 14:07	7440-70-2	
Chromium	0.53 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:37	7440-47-3	
Copper	7.4 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:37	7440-50-8	
Iron	1100 ug/L		50.0	1	02/29/12 06:47	03/06/12 14:37	7439-89-6	
Magnesium	14000 ug/L		5.0	1	02/29/12 06:47	03/06/12 14:37	7439-95-4	
Manganese	426 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:37	7439-96-5	
Nickel	0.69 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:37	7440-02-0	
Potassium	2130 ug/L		20.0	1	02/29/12 06:47	03/07/12 14:03	7440-09-7	
Selenium	0.50 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:37	7782-49-2	
Silver	ND ug/L		0.50	1	02/29/12 06:47	03/07/12 14:03	7440-22-4	
Sodium	8060 ug/L		50.0	1	02/29/12 06:47	03/06/12 14:37	7440-23-5	
Thallium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 14:37	7440-28-0	
Total Hardness by 2340B	309000 ug/L		1420	20	02/29/12 06:47	03/07/12 14:07		
Vanadium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 14:37	7440-62-2	
Zinc	291 ug/L		5.0	1	02/29/12 06:47	03/06/12 14:37	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	4.7 ug/L		4.0	1	02/29/12 11:02	03/06/12 14:02	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/06/12 14:02	7440-36-0	
Arsenic, Dissolved	0.85 ug/L		0.50	1	02/29/12 11:02	03/06/12 14:02	7440-38-2	
Barium, Dissolved	59.6 ug/L		0.30	1	02/29/12 11:02	03/06/12 14:02	7440-39-3	
Cadmium, Dissolved	1.0 ug/L		0.080	1	02/29/12 11:02	03/06/12 14:02	7440-43-9	
Calcium, Dissolved	99700 ug/L		200	10	02/29/12 11:02	03/06/12 14:06	7440-70-2	
Chromium, Dissolved	0.87 ug/L		0.50	1	02/29/12 11:02	03/06/12 14:02	7440-47-3	
Copper, Dissolved	2.8 ug/L		0.50	1	02/29/12 11:02	03/06/12 14:02	7440-50-8	
Iron, Dissolved	147 ug/L		50.0	1	02/29/12 11:02	03/06/12 14:02	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/06/12 14:02	7439-92-1	
Magnesium, Dissolved	13300 ug/L		5.0	1	02/29/12 11:02	03/06/12 14:02	7439-95-4	
Manganese, Dissolved	417 ug/L		0.50	1	02/29/12 11:02	03/06/12 14:02	7439-96-5	
Nickel, Dissolved	3.8 ug/L		0.50	1	02/29/12 11:02	03/06/12 14:02	7440-02-0	
Potassium, Dissolved	2060 ug/L		20.0	1	02/29/12 11:02	03/06/12 14:02	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/06/12 14:02	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/06/12 14:02	7440-22-4	
Sodium, Dissolved	6990 ug/L		50.0	1	02/29/12 11:02	03/06/12 14:02	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/06/12 14:02	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/06/12 14:02	7440-62-2	
Zinc, Dissolved	231 ug/L		5.0	1	02/29/12 11:02	03/06/12 14:02	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:45	03/06/12 10:16	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: DR-7	Lab ID: 60115895007	Collected: 02/22/12 13:30	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:33	03/06/12 09:12	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	630	umhos/cm	10.0	1		03/05/12 14:33		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	403	mg/L	6.0	1		03/05/12 14:33		
Salinity (as seawater)	0.31	PSU	0.010	1		03/05/12 14:33		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	158	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	158	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	452	mg/L	5.0	1		02/29/12 14:08		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	9.0	mg/L	5.0	1		02/29/12 12:36		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.3	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	165	mg/L	20.0	20		03/07/12 11:17	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		02/29/12 16:56	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Sample: DR-8	Lab ID: 60115895008	Collected: 02/22/12 09:35	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	619 ug/L		4.0	1	02/29/12 06:47	03/06/12 14:44	7429-90-5	
Antimony	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 14:44	7440-36-0	
Arsenic	1.1 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:44	7440-38-2	
Barium	20.6 ug/L		0.30	1	02/29/12 06:47	03/06/12 14:44	7440-39-3	
Beryllium	0.78 ug/L		0.20	1	02/29/12 06:47	03/06/12 14:44	7440-41-7	
Cadmium	15.4 ug/L		0.080	1	02/29/12 06:47	03/06/12 14:44	7440-43-9	
Calcium	241000 ug/L		400	20	02/29/12 06:47	03/07/12 14:13	7440-70-2	
Chromium	0.85 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:44	7440-47-3	
Copper	105 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:44	7440-50-8	
Iron	8110 ug/L		50.0	1	02/29/12 06:47	03/06/12 14:44	7439-89-6	
Magnesium	19900 ug/L		5.0	1	02/29/12 06:47	03/06/12 14:44	7439-95-4	
Manganese	2060 ug/L		10.0	20	02/29/12 06:47	03/06/12 14:58	7439-96-5	
Nickel	5.0 ug/L		0.50	1	02/29/12 06:47	03/06/12 14:44	7440-02-0	
Potassium	1640 ug/L		20.0	1	02/29/12 06:47	03/07/12 14:10	7440-09-7	
Selenium	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 14:44	7782-49-2	
Silver	ND ug/L		0.50	1	02/29/12 06:47	03/07/12 14:10	7440-22-4	
Sodium	11200 ug/L		50.0	1	02/29/12 06:47	03/06/12 14:44	7440-23-5	
Thallium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 14:44	7440-28-0	
Total Hardness by 2340B	685000 ug/L		1420	20	02/29/12 06:47	03/07/12 14:13		
Vanadium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 14:44	7440-62-2	
Zinc	3380 ug/L		100	20	02/29/12 06:47	03/06/12 14:58	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	23.4 ug/L		4.0	1	02/29/12 11:02	03/02/12 19:50	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:24	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:24	7440-38-2	
Barium, Dissolved	20.0 ug/L		0.30	1	02/29/12 11:02	03/05/12 18:24	7440-39-3	
Cadmium, Dissolved	13.6 ug/L		0.080	1	02/29/12 11:02	03/05/12 18:24	7440-43-9	
Calcium, Dissolved	245000 ug/L		400	20	02/29/12 11:02	03/05/12 18:29	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:24	7440-47-3	
Copper, Dissolved	6.0 ug/L		0.50	1	02/29/12 11:02	03/05/12 18:24	7440-50-8	
Iron, Dissolved	1800 ug/L		50.0	1	02/29/12 11:02	03/05/12 18:24	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 18:24	7439-92-1	
Magnesium, Dissolved	17100 ug/L		5.0	1	02/29/12 11:02	03/02/12 19:50	7439-95-4	
Manganese, Dissolved	2020 ug/L		10.0	20	02/29/12 11:02	03/05/12 18:29	7439-96-5	
Nickel, Dissolved	4.8 ug/L		0.50	1	02/29/12 11:02	03/05/12 18:24	7440-02-0	
Potassium, Dissolved	1660 ug/L		20.0	1	02/29/12 11:02	03/05/12 18:24	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/02/12 19:50	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:24	7440-22-4	
Sodium, Dissolved	9940 ug/L		50.0	1	02/29/12 11:02	03/02/12 19:50	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 18:24	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 18:24	7440-62-2	
Zinc, Dissolved	2900 ug/L		100	20	02/29/12 11:02	03/05/12 18:29	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:45	03/06/12 10:18	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: DR-8	Lab ID: 60115895008	Collected: 02/22/12 09:35	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:33	03/06/12 09:14	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1280	umhos/cm	10.0	1		03/05/12 14:35		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	819	mg/L	6.0	1		03/05/12 14:35		
Salinity (as seawater)	0.64	PSU	0.010	1		03/05/12 14:35		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	102	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	102	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	1070	mg/L	5.0	1		02/29/12 14:08		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	24.0	mg/L	5.0	1		02/29/12 12:36		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	919	mg/L	50.0	50		03/06/12 18:13	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		02/29/12 16:56	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Sample: DR-4-SW	Lab ID: 60115895009	Collected: 02/22/12 16:00	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	23.8 ug/L		4.0	1	02/29/12 06:47	03/06/12 15:01	7429-90-5	
Antimony	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 15:01	7440-36-0	
Arsenic	0.56 ug/L		0.50	1	02/29/12 06:47	03/06/12 15:01	7440-38-2	
Barium	64.8 ug/L		0.30	1	02/29/12 06:47	03/06/12 15:01	7440-39-3	
Beryllium	ND ug/L		0.20	1	02/29/12 06:47	03/06/12 15:01	7440-41-7	
Cadmium	1.1 ug/L		0.080	1	02/29/12 06:47	03/06/12 15:01	7440-43-9	
Calcium	91400 ug/L		400	20	02/29/12 06:47	03/07/12 14:30	7440-70-2	
Chromium	0.95 ug/L		0.50	1	02/29/12 06:47	03/06/12 15:01	7440-47-3	
Copper	1.6 ug/L		0.50	1	02/29/12 06:47	03/06/12 15:01	7440-50-8	
Iron	250 ug/L		50.0	1	02/29/12 06:47	03/06/12 15:01	7439-89-6	
Magnesium	12100 ug/L		5.0	1	02/29/12 06:47	03/06/12 15:01	7439-95-4	
Manganese	349 ug/L		0.50	1	02/29/12 06:47	03/06/12 15:01	7439-96-5	
Nickel	1.0 ug/L		0.50	1	02/29/12 06:47	03/06/12 15:01	7440-02-0	
Potassium	1460 ug/L		20.0	1	02/29/12 06:47	03/07/12 14:27	7440-09-7	
Selenium	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 15:01	7782-49-2	
Silver	ND ug/L		0.50	1	02/29/12 06:47	03/07/12 14:27	7440-22-4	
Sodium	6020 ug/L		50.0	1	02/29/12 06:47	03/06/12 15:01	7440-23-5	
Thallium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 15:01	7440-28-0	
Total Hardness by 2340B	278000 ug/L		1420	20	02/29/12 06:47	03/07/12 14:30		
Vanadium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 15:01	7440-62-2	
Zinc	233 ug/L		5.0	1	02/29/12 06:47	03/06/12 15:01	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	10.0 ug/L		4.0	1	02/29/12 11:02	03/02/12 19:59	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:34	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:34	7440-38-2	
Barium, Dissolved	60.9 ug/L		0.30	1	02/29/12 11:02	03/05/12 18:34	7440-39-3	
Cadmium, Dissolved	0.96 ug/L		0.080	1	02/29/12 11:02	03/05/12 18:34	7440-43-9	
Calcium, Dissolved	101000 ug/L		100	5	02/29/12 11:02	03/05/12 18:39	7440-70-2	
Chromium, Dissolved	0.59 ug/L		0.50	1	02/29/12 11:02	03/05/12 18:34	7440-47-3	
Copper, Dissolved	2.9 ug/L		0.50	1	02/29/12 11:02	03/05/12 18:34	7440-50-8	
Iron, Dissolved	243 ug/L		50.0	1	02/29/12 11:02	03/05/12 18:34	7439-89-6	
Lead, Dissolved	0.16 ug/L		0.10	1	02/29/12 11:02	03/05/12 18:34	7439-92-1	
Magnesium, Dissolved	11100 ug/L		5.0	1	02/29/12 11:02	03/02/12 19:59	7439-95-4	
Manganese, Dissolved	347 ug/L		0.50	1	02/29/12 11:02	03/05/12 18:34	7439-96-5	
Nickel, Dissolved	1.9 ug/L		0.50	1	02/29/12 11:02	03/05/12 18:34	7440-02-0	
Potassium, Dissolved	1500 ug/L		20.0	1	02/29/12 11:02	03/05/12 18:34	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/02/12 19:59	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:34	7440-22-4	
Sodium, Dissolved	5780 ug/L		50.0	1	02/29/12 11:02	03/02/12 19:59	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 18:34	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 18:34	7440-62-2	
Zinc, Dissolved	210 ug/L		5.0	1	02/29/12 11:02	03/02/12 19:59	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:45	03/06/12 10:20	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: DR-4-SW	Lab ID: 60115895009	Collected: 02/22/12 16:00	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:33	03/06/12 09:16	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	575	umhos/cm	10.0	1		03/05/12 14:42		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	368	mg/L	6.0	1		03/05/12 14:42		
Salinity (as seawater)	0.28	PSU	0.010	1		03/05/12 14:42		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	152	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	152	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	394	mg/L	5.0	1		02/29/12 14:08		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	6.0	mg/L	5.0	1		02/29/12 12:36		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.6	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	135	mg/L	20.0	20		03/07/12 11:30	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		02/29/12 16:59	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Sample: DR-G	Lab ID: 60115895010	Collected: 02/22/12 04:30	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	18.4 ug/L		4.0	1	02/29/12 06:47	03/06/12 15:08	7429-90-5	
Antimony	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 15:08	7440-36-0	
Arsenic	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 15:08	7440-38-2	
Barium	78.4 ug/L		0.30	1	02/29/12 06:47	03/06/12 15:08	7440-39-3	
Beryllium	ND ug/L		0.20	1	02/29/12 06:47	03/06/12 15:08	7440-41-7	
Cadmium	0.73 ug/L		0.080	1	02/29/12 06:47	03/06/12 15:08	7440-43-9	
Calcium	83400 ug/L		400	20	02/29/12 06:47	03/07/12 14:37	7440-70-2	
Chromium	0.52 ug/L		0.50	1	02/29/12 06:47	03/06/12 15:08	7440-47-3	
Copper	1.2 ug/L		0.50	1	02/29/12 06:47	03/06/12 15:08	7440-50-8	
Iron	134 ug/L		50.0	1	02/29/12 06:47	03/06/12 15:08	7439-89-6	
Magnesium	11300 ug/L		5.0	1	02/29/12 06:47	03/06/12 15:08	7439-95-4	
Manganese	170 ug/L		0.50	1	02/29/12 06:47	03/06/12 15:08	7439-96-5	
Nickel	0.58 ug/L		0.50	1	02/29/12 06:47	03/06/12 15:08	7440-02-0	
Potassium	1300 ug/L		20.0	1	02/29/12 06:47	03/07/12 14:34	7440-09-7	
Selenium	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 15:08	7782-49-2	
Silver	ND ug/L		0.50	1	02/29/12 06:47	03/07/12 14:34	7440-22-4	
Sodium	5420 ug/L		50.0	1	02/29/12 06:47	03/06/12 15:08	7440-23-5	
Thallium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 15:08	7440-28-0	
Total Hardness by 2340B	255000 ug/L		1420	20	02/29/12 06:47	03/07/12 14:37		
Vanadium	0.11 ug/L		0.10	1	02/29/12 06:47	03/06/12 15:08	7440-62-2	
Zinc	155 ug/L		5.0	1	02/29/12 06:47	03/06/12 15:08	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	6.0 ug/L		4.0	1	02/29/12 11:02	03/02/12 18:58	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:43	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:43	7440-38-2	
Barium, Dissolved	75.1 ug/L		0.30	1	02/29/12 11:02	03/05/12 18:43	7440-39-3	
Cadmium, Dissolved	0.62 ug/L		0.080	1	02/29/12 11:02	03/05/12 18:43	7440-43-9	
Calcium, Dissolved	91200 ug/L		100	5	02/29/12 11:02	03/05/12 18:53	7440-70-2	
Chromium, Dissolved	0.53 ug/L		0.50	1	02/29/12 11:02	03/05/12 18:43	7440-47-3	
Copper, Dissolved	2.3 ug/L		0.50	1	02/29/12 11:02	03/05/12 18:43	7440-50-8	
Iron, Dissolved	99.8 ug/L		50.0	1	02/29/12 11:02	03/05/12 18:43	7439-89-6	
Lead, Dissolved	0.12 ug/L		0.10	1	02/29/12 11:02	03/05/12 18:43	7439-92-1	
Magnesium, Dissolved	10000 ug/L		5.0	1	02/29/12 11:02	03/02/12 18:58	7439-95-4	
Manganese, Dissolved	171 ug/L		0.50	1	02/29/12 11:02	03/05/12 18:43	7439-96-5	M1
Nickel, Dissolved	1.8 ug/L		0.50	1	02/29/12 11:02	03/05/12 18:43	7440-02-0	
Potassium, Dissolved	1340 ug/L		20.0	1	02/29/12 11:02	03/05/12 18:43	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/02/12 18:58	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:43	7440-22-4	
Sodium, Dissolved	5040 ug/L		50.0	1	02/29/12 11:02	03/02/12 18:58	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 18:43	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 18:43	7440-62-2	
Zinc, Dissolved	130 ug/L		5.0	1	02/29/12 11:02	03/02/12 18:58	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:45	03/06/12 10:26	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: DR-G	Lab ID: 60115895010	Collected: 02/22/12 04:30	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:33	03/06/12 09:18	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	528	umhos/cm	10.0	1		03/05/12 14:57		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	338	mg/L	6.0	1		03/05/12 14:57		
Salinity (as seawater)	0.26	PSU	0.010	1		03/05/12 14:57		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	156	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	156	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	350	mg/L	5.0	1		02/29/12 14:08		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	6.0	mg/L	5.0	1		02/29/12 12:36		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	8.3	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	176	mg/L	10.0	10		03/06/12 19:06	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		02/29/12 16:59	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Sample: FB	Lab ID: 60115895011	Collected: 02/22/12 09:45	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	ND ug/L		4.0	1	02/29/12 06:47	03/06/12 15:14	7429-90-5	
Antimony	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 15:14	7440-36-0	
Arsenic	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 15:14	7440-38-2	
Barium	ND ug/L		0.30	1	02/29/12 06:47	03/06/12 15:14	7440-39-3	
Beryllium	ND ug/L		0.20	1	02/29/12 06:47	03/06/12 15:14	7440-41-7	
Cadmium	ND ug/L		0.080	1	02/29/12 06:47	03/06/12 15:14	7440-43-9	
Calcium	ND ug/L		20.0	1	02/29/12 06:47	03/07/12 14:47	7440-70-2	M1
Chromium	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 15:14	7440-47-3	
Copper	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 15:14	7440-50-8	
Iron	ND ug/L		50.0	1	02/29/12 06:47	03/06/12 15:14	7439-89-6	
Magnesium	ND ug/L		5.0	1	02/29/12 06:47	03/06/12 15:14	7439-95-4	
Manganese	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 15:14	7439-96-5	
Nickel	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 15:14	7440-02-0	
Potassium	ND ug/L		20.0	1	02/29/12 06:47	03/07/12 14:47	7440-09-7	
Selenium	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 15:14	7782-49-2	
Silver	ND ug/L		0.50	1	02/29/12 06:47	03/07/12 14:47	7440-22-4	
Sodium	388 ug/L		50.0	1	02/29/12 06:47	03/06/12 15:14	7440-23-5	
Thallium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 15:14	7440-28-0	
Total Hardness by 2340B	ND ug/L		71.0	1	02/29/12 06:47	03/06/12 15:14		
Vanadium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 15:14	7440-62-2	
Zinc	ND ug/L		5.0	1	02/29/12 06:47	03/06/12 15:14	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	ND ug/L		4.0	1	02/29/12 11:02	03/02/12 20:18	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:58	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:58	7440-38-2	
Barium, Dissolved	ND ug/L		0.30	1	02/29/12 11:02	03/05/12 18:58	7440-39-3	
Cadmium, Dissolved	ND ug/L		0.080	1	02/29/12 11:02	03/05/12 18:58	7440-43-9	
Calcium, Dissolved	ND ug/L		20.0	1	02/29/12 11:02	03/05/12 18:58	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:58	7440-47-3	
Copper, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:58	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	02/29/12 11:02	03/05/12 18:58	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 18:58	7439-92-1	
Magnesium, Dissolved	ND ug/L		5.0	1	02/29/12 11:02	03/02/12 20:18	7439-95-4	
Manganese, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:58	7439-96-5	
Nickel, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:58	7440-02-0	
Potassium, Dissolved	ND ug/L		20.0	1	02/29/12 11:02	03/05/12 18:58	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/02/12 20:18	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 18:58	7440-22-4	
Sodium, Dissolved	346 ug/L		50.0	1	02/29/12 11:02	03/02/12 20:18	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 18:58	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 18:58	7440-62-2	
Zinc, Dissolved	ND ug/L		5.0	1	02/29/12 11:02	03/02/12 20:18	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:45	03/06/12 10:28	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: FB	Lab ID: 60115895011	Collected: 02/22/12 09:45	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:33	03/06/12 09:20	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	ND	umhos/cm	10.0	1		03/05/12 14:59		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	ND	mg/L	6.0	1		03/05/12 14:59		
Salinity (as seawater)	0.012	PSU	0.010	1		03/05/12 14:59		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	ND	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	30.0	mg/L	5.0	1		02/29/12 14:08		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		02/29/12 12:36		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.3	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	ND	mg/L	1.0	1		03/06/12 19:33	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		02/29/12 17:06	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-1 SHALLOW	Lab ID: 60115895017	Collected: 02/21/12 12:25	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	9210 ug/L		4.0	1	02/29/12 06:47	03/06/12 16:09	7429-90-5	
Antimony	0.54 ug/L		0.50	1	02/29/12 06:47	03/06/12 16:09	7440-36-0	
Arsenic	11.8 ug/L		0.50	1	02/29/12 06:47	03/06/12 16:09	7440-38-2	
Barium	146 ug/L		0.30	1	02/29/12 06:47	03/06/12 16:09	7440-39-3	
Beryllium	0.65 ug/L		0.20	1	02/29/12 06:47	03/06/12 16:09	7440-41-7	
Cadmium	1.1 ug/L		0.080	1	02/29/12 06:47	03/06/12 16:09	7440-43-9	
Calcium	229000 ug/L		400	20	02/29/12 06:47	03/07/12 15:59	7440-70-2	
Chromium	10.8 ug/L		0.50	1	02/29/12 06:47	03/06/12 16:09	7440-47-3	
Copper	41.9 ug/L		0.50	1	02/29/12 06:47	03/06/12 16:09	7440-50-8	
Iron	14100 ug/L		50.0	1	02/29/12 06:47	03/06/12 16:09	7439-89-6	
Magnesium	26200 ug/L		100	20	02/29/12 06:47	03/06/12 16:12	7439-95-4	
Manganese	546 ug/L		10.0	20	02/29/12 06:47	03/07/12 15:59	7439-96-5	
Nickel	7.7 ug/L		0.50	1	02/29/12 06:47	03/06/12 16:09	7440-02-0	
Potassium	3540 ug/L		20.0	1	02/29/12 06:47	03/07/12 15:56	7440-09-7	
Selenium	17.2 ug/L		0.50	1	02/29/12 06:47	03/06/12 16:09	7782-49-2	
Silver	ND ug/L		0.50	1	02/29/12 06:47	03/07/12 15:56	7440-22-4	
Sodium	10200 ug/L		50.0	1	02/29/12 06:47	03/07/12 15:56	7440-23-5	
Thallium	0.31 ug/L		0.10	1	02/29/12 06:47	03/06/12 16:09	7440-28-0	
Total Hardness by 2340B	679000 ug/L		1420	20	02/29/12 06:47	03/07/12 15:59		
Vanadium	14.6 ug/L		0.10	1	02/29/12 06:47	03/06/12 16:09	7440-62-2	
Zinc	181 ug/L		5.0	1	02/29/12 06:47	03/06/12 16:09	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	5.1 ug/L		4.0	1	02/29/12 11:02	03/05/12 20:20	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 20:20	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 20:20	7440-38-2	
Barium, Dissolved	18.3 ug/L		0.30	1	02/29/12 11:02	03/05/12 20:20	7440-39-3	
Cadmium, Dissolved	0.31 ug/L		0.080	1	02/29/12 11:02	03/05/12 20:20	7440-43-9	
Calcium, Dissolved	244000 ug/L		400	20	02/29/12 11:02	03/05/12 20:25	7440-70-2	
Chromium, Dissolved	0.97 ug/L		0.50	1	02/29/12 11:02	03/05/12 20:20	7440-47-3	
Copper, Dissolved	2.8 ug/L		0.50	1	02/29/12 11:02	03/05/12 20:20	7440-50-8	
Iron, Dissolved	1160 ug/L		50.0	1	02/29/12 11:02	03/05/12 20:20	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 20:20	7439-92-1	
Magnesium, Dissolved	20100 ug/L		5.0	1	02/29/12 11:02	03/05/12 20:20	7439-95-4	
Manganese, Dissolved	10.8 ug/L		0.50	1	02/29/12 11:02	03/05/12 20:20	7439-96-5	
Nickel, Dissolved	0.81 ug/L		0.50	1	02/29/12 11:02	03/05/12 20:20	7440-02-0	
Potassium, Dissolved	1310 ug/L		20.0	1	02/29/12 11:02	03/05/12 20:20	7440-09-7	
Selenium, Dissolved	13.8 ug/L		0.50	1	02/29/12 11:02	03/05/12 20:20	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 20:20	7440-22-4	
Sodium, Dissolved	9860 ug/L		50.0	1	02/29/12 11:02	03/05/12 20:20	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 20:20	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 20:20	7440-62-2	
Zinc, Dissolved	54.4 ug/L		5.0	1	02/29/12 11:02	03/05/12 20:20	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:45	03/06/12 10:45	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-1 SHALLOW	Lab ID: 60115895017	Collected: 02/21/12 12:25	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:33	03/06/12 09:37	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1210	umhos/cm	10.0	1		03/05/12 15:17		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	774	mg/L	6.0	1		03/05/12 15:17		
Salinity (as seawater)	0.60	PSU	0.010	1		03/05/12 15:17		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	80.0	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	80.0	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	927	mg/L	5.0	1		02/28/12 14:46		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	223	mg/L	5.0	1		02/28/12 14:09		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.4	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	897	mg/L	50.0	50		03/06/12 20:52	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		02/29/12 17:15	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-1 DEEP	Lab ID: 60115895018	Collected: 02/21/12 12:30	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	59.3 ug/L		4.0	1	02/29/12 06:47	03/06/12 16:26	7429-90-5	
Antimony	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 16:26	7440-36-0	
Arsenic	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 16:26	7440-38-2	
Barium	14.1 ug/L		0.30	1	02/29/12 06:47	03/06/12 16:26	7440-39-3	
Beryllium	ND ug/L		0.20	1	02/29/12 06:47	03/06/12 16:26	7440-41-7	
Cadmium	2.1 ug/L		0.080	1	02/29/12 06:47	03/06/12 16:26	7440-43-9	
Calcium	229000 ug/L		400	20	02/29/12 06:47	03/07/12 16:06	7440-70-2	
Chromium	1.2 ug/L		0.50	1	02/29/12 06:47	03/06/12 16:26	7440-47-3	
Copper	4.7 ug/L		0.50	1	02/29/12 06:47	03/07/12 16:02	7440-50-8	
Iron	121 ug/L		50.0	1	02/29/12 06:47	03/07/12 16:02	7439-89-6	
Magnesium	20300 ug/L		5.0	1	02/29/12 06:47	03/06/12 16:26	7439-95-4	
Manganese	19.5 ug/L		0.50	1	02/29/12 06:47	03/06/12 16:26	7439-96-5	
Nickel	0.84 ug/L		0.50	1	02/29/12 06:47	03/06/12 16:26	7440-02-0	
Potassium	1370 ug/L		20.0	1	02/29/12 06:47	03/07/12 16:02	7440-09-7	
Selenium	7.4 ug/L		0.50	1	02/29/12 06:47	03/06/12 16:26	7782-49-2	
Silver	ND ug/L		0.50	1	02/29/12 06:47	03/07/12 16:02	7440-22-4	
Sodium	10800 ug/L		50.0	1	02/29/12 06:47	03/07/12 16:02	7440-23-5	
Thallium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 16:26	7440-28-0	
Total Hardness by 2340B	655000 ug/L		1420	20	02/29/12 06:47	03/07/12 16:06		
Vanadium	0.10 ug/L		0.10	1	02/29/12 06:47	03/06/12 16:26	7440-62-2	
Zinc	553 ug/L		100	20	02/29/12 06:47	03/07/12 16:06	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	4.1 ug/L		4.0	1	02/29/12 11:02	03/05/12 20:29	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 20:29	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 20:29	7440-38-2	
Barium, Dissolved	12.4 ug/L		0.30	1	02/29/12 11:02	03/05/12 20:29	7440-39-3	
Cadmium, Dissolved	2.0 ug/L		0.080	1	02/29/12 11:02	03/05/12 20:29	7440-43-9	
Calcium, Dissolved	234000 ug/L		400	20	02/29/12 11:02	03/05/12 20:34	7440-70-2	
Chromium, Dissolved	0.73 ug/L		0.50	1	02/29/12 11:02	03/05/12 20:29	7440-47-3	
Copper, Dissolved	3.4 ug/L		0.50	1	02/29/12 11:02	03/05/12 20:29	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	02/29/12 11:02	03/05/12 20:29	7439-89-6	
Lead, Dissolved	0.10 ug/L		0.10	1	02/29/12 11:02	03/05/12 20:29	7439-92-1	
Magnesium, Dissolved	19400 ug/L		5.0	1	02/29/12 11:02	03/05/12 20:29	7439-95-4	
Manganese, Dissolved	1.2 ug/L		0.50	1	02/29/12 11:02	03/05/12 20:29	7439-96-5	
Nickel, Dissolved	0.94 ug/L		0.50	1	02/29/12 11:02	03/05/12 20:29	7440-02-0	
Potassium, Dissolved	1360 ug/L		20.0	1	02/29/12 11:02	03/05/12 20:29	7440-09-7	
Selenium, Dissolved	7.2 ug/L		0.50	1	02/29/12 11:02	03/05/12 20:29	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 20:29	7440-22-4	
Sodium, Dissolved	10500 ug/L		50.0	1	02/29/12 11:02	03/05/12 20:29	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 20:29	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 20:29	7440-62-2	
Zinc, Dissolved	517 ug/L		100	20	02/29/12 11:02	03/05/12 20:34	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:45	03/06/12 10:47	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-1 DEEP	Lab ID: 60115895018	Collected: 02/21/12 12:30	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:33	03/06/12 09:39	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1220	umhos/cm	10.0	1		03/05/12 15:18		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	779	mg/L	6.0	1		03/05/12 15:18		
Salinity (as seawater)	0.60	PSU	0.010	1		03/05/12 15:18		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	88.0	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	88.0	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	868	mg/L	5.0	1		02/28/12 14:46		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		02/28/12 14:09		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.4	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	631	mg/L	50.0	50		03/07/12 11:57	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		03/05/12 13:08	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-2 DEEP	Lab ID: 60115895019	Collected: 02/21/12 12:10	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	860 ug/L		4.0	1	02/29/12 06:47	03/06/12 16:33	7429-90-5	
Antimony	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 16:33	7440-36-0	
Arsenic	0.82 ug/L		0.50	1	02/29/12 06:47	03/06/12 16:33	7440-38-2	
Barium	23.9 ug/L		0.30	1	02/29/12 06:47	03/06/12 16:33	7440-39-3	
Beryllium	ND ug/L		0.20	1	02/29/12 06:47	03/06/12 16:33	7440-41-7	
Cadmium	0.96 ug/L		0.080	1	02/29/12 06:47	03/06/12 16:33	7440-43-9	
Calcium	227000 ug/L		400	20	02/29/12 06:47	03/07/12 16:13	7440-70-2	
Chromium	1.8 ug/L		0.50	1	02/29/12 06:47	03/06/12 16:33	7440-47-3	
Copper	5.0 ug/L		0.50	1	02/29/12 06:47	03/07/12 16:09	7440-50-8	
Iron	1340 ug/L		50.0	1	02/29/12 06:47	03/06/12 16:33	7439-89-6	
Magnesium	21000 ug/L		5.0	1	02/29/12 06:47	03/06/12 16:33	7439-95-4	
Manganese	20.2 ug/L		0.50	1	02/29/12 06:47	03/07/12 16:09	7439-96-5	
Nickel	0.65 ug/L		0.50	1	02/29/12 06:47	03/06/12 16:33	7440-02-0	
Potassium	1970 ug/L		20.0	1	02/29/12 06:47	03/07/12 16:09	7440-09-7	
Selenium	1.5 ug/L		0.50	1	02/29/12 06:47	03/06/12 16:33	7782-49-2	
Silver	ND ug/L		0.50	1	02/29/12 06:47	03/07/12 16:09	7440-22-4	
Sodium	10700 ug/L		50.0	1	02/29/12 06:47	03/07/12 16:09	7440-23-5	
Thallium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 16:33	7440-28-0	
Total Hardness by 2340B	652000 ug/L		1420	20	02/29/12 06:47	03/07/12 16:13		
Vanadium	1.2 ug/L		0.10	1	02/29/12 06:47	03/06/12 16:33	7440-62-2	
Zinc	32.7 ug/L		5.0	1	02/29/12 06:47	03/07/12 16:09	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	7.5 ug/L		4.0	1	02/29/12 11:02	03/05/12 20:39	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 20:39	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 20:39	7440-38-2	
Barium, Dissolved	12.2 ug/L		0.30	1	02/29/12 11:02	03/05/12 20:39	7440-39-3	
Cadmium, Dissolved	0.88 ug/L		0.080	1	02/29/12 11:02	03/05/12 20:39	7440-43-9	
Calcium, Dissolved	241000 ug/L		400	20	02/29/12 11:02	03/05/12 20:44	7440-70-2	
Chromium, Dissolved	0.67 ug/L		0.50	1	02/29/12 11:02	03/05/12 20:39	7440-47-3	
Copper, Dissolved	1.7 ug/L		0.50	1	02/29/12 11:02	03/05/12 20:39	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	02/29/12 11:02	03/05/12 20:39	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 20:39	7439-92-1	
Magnesium, Dissolved	20400 ug/L		5.0	1	02/29/12 11:02	03/05/12 20:39	7439-95-4	
Manganese, Dissolved	1.5 ug/L		0.50	1	02/29/12 11:02	03/05/12 20:39	7439-96-5	
Nickel, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 20:39	7440-02-0	
Potassium, Dissolved	1760 ug/L		20.0	1	02/29/12 11:02	03/05/12 20:39	7440-09-7	
Selenium, Dissolved	1.4 ug/L		0.50	1	02/29/12 11:02	03/05/12 20:39	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	02/29/12 11:02	03/05/12 20:39	7440-22-4	
Sodium, Dissolved	10800 ug/L		50.0	1	02/29/12 11:02	03/05/12 20:39	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 20:39	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	02/29/12 11:02	03/05/12 20:39	7440-62-2	
Zinc, Dissolved	20.5 ug/L		5.0	1	02/29/12 11:02	03/05/12 20:39	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:45	03/06/12 10:49	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Sample: MW-2 DEEP	Lab ID: 60115895019	Collected: 02/21/12 12:10	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:33	03/06/12 09:41	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1250	umhos/cm	10.0	1		03/05/12 15:20		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	801	mg/L	6.0	1		03/05/12 15:20		
Salinity (as seawater)	0.62	PSU	0.010	1		03/05/12 15:20		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	80.0	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	80.0	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	919	mg/L	5.0	1		02/28/12 14:46		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	40.0	mg/L	5.0	1		02/28/12 14:09		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	618	mg/L	50.0	50		03/07/12 12:10	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		03/05/12 13:09	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-3 DEEP	Lab ID: 60115895020	Collected: 02/21/12 15:05	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	160 ug/L		4.0	1	02/29/12 06:47	03/06/12 16:40	7429-90-5	
Antimony	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 16:40	7440-36-0	
Arsenic	5.8 ug/L		0.50	1	02/29/12 06:47	03/06/12 16:40	7440-38-2	
Barium	20.5 ug/L		0.30	1	02/29/12 06:47	03/06/12 16:40	7440-39-3	
Beryllium	ND ug/L		0.20	1	02/29/12 06:47	03/06/12 16:40	7440-41-7	
Cadmium	0.15 ug/L		0.080	1	02/29/12 06:47	03/06/12 16:40	7440-43-9	
Calcium	218000 ug/L		400	20	02/29/12 06:47	03/07/12 16:19	7440-70-2	
Chromium	0.81 ug/L		0.50	1	02/29/12 06:47	03/06/12 16:40	7440-47-3	
Copper	0.92 ug/L		0.50	1	02/29/12 06:47	03/07/12 16:16	7440-50-8	
Iron	21800 ug/L		50.0	1	02/29/12 06:47	03/06/12 16:40	7439-89-6	
Magnesium	24200 ug/L		100	20	02/29/12 06:47	03/06/12 16:43	7439-95-4	
Manganese	1300 ug/L		10.0	20	02/29/12 06:47	03/06/12 16:43	7439-96-5	
Nickel	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 16:40	7440-02-0	
Potassium	2040 ug/L		20.0	1	02/29/12 06:47	03/07/12 16:16	7440-09-7	
Selenium	ND ug/L		0.50	1	02/29/12 06:47	03/06/12 16:40	7782-49-2	
Silver	ND ug/L		0.50	1	02/29/12 06:47	03/07/12 16:16	7440-22-4	
Sodium	9400 ug/L		50.0	1	02/29/12 06:47	03/07/12 16:16	7440-23-5	
Thallium	ND ug/L		0.10	1	02/29/12 06:47	03/06/12 16:40	7440-28-0	
Total Hardness by 2340B	643000 ug/L		1420	20	02/29/12 06:47	03/07/12 16:19		
Vanadium	0.37 ug/L		0.10	1	02/29/12 06:47	03/06/12 16:40	7440-62-2	
Zinc	121 ug/L		5.0	1	02/29/12 06:47	03/06/12 16:40	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	8.8 ug/L		4.0	1	03/01/12 08:01	03/02/12 16:28	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	03/01/12 08:01	03/02/12 16:28	7440-36-0	
Arsenic, Dissolved	0.56 ug/L		0.50	1	03/01/12 08:01	03/02/12 16:28	7440-38-2	
Barium, Dissolved	14.6 ug/L		0.30	1	03/01/12 08:01	03/02/12 16:28	7440-39-3	
Cadmium, Dissolved	ND ug/L		0.080	1	03/01/12 08:01	03/02/12 16:28	7440-43-9	
Calcium, Dissolved	233000 ug/L		200	10	03/01/12 08:01	03/02/12 16:32	7440-70-2	
Chromium, Dissolved	0.55 ug/L		0.50	1	03/01/12 08:01	03/02/12 16:28	7440-47-3	
Copper, Dissolved	1.6 ug/L		0.50	1	03/01/12 08:01	03/02/12 16:28	7440-50-8	
Iron, Dissolved	1400 ug/L		50.0	1	03/01/12 08:01	03/02/12 16:28	7439-89-6	
Lead, Dissolved	0.15 ug/L		0.10	1	03/01/12 08:01	03/02/12 16:28	7439-92-1	
Magnesium, Dissolved	21200 ug/L		5.0	1	03/01/12 08:01	03/02/12 16:28	7439-95-4	
Manganese, Dissolved	1220 ug/L		5.0	10	03/01/12 08:01	03/02/12 16:32	7439-96-5	
Nickel, Dissolved	2.2 ug/L		0.50	1	03/01/12 08:01	03/02/12 16:28	7440-02-0	
Potassium, Dissolved	2080 ug/L		20.0	1	03/01/12 08:01	03/02/12 16:28	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	03/01/12 08:01	03/02/12 16:28	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	03/01/12 08:01	03/02/12 16:28	7440-22-4	
Sodium, Dissolved	9890 ug/L		50.0	1	03/01/12 08:01	03/02/12 16:28	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	03/01/12 08:01	03/02/12 16:28	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	03/01/12 08:01	03/02/12 16:28	7440-62-2	
Zinc, Dissolved	43.6 ug/L		5.0	1	03/01/12 08:01	03/02/12 16:28	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:45	03/06/12 10:51	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-3 DEEP	Lab ID: 60115895020	Collected: 02/21/12 15:05	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:33	03/06/12 09:43	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1290	umhos/cm	10.0	1		03/05/12 15:24		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	827	mg/L	6.0	1		03/05/12 15:24		
Salinity (as seawater)	0.64	PSU	0.010	1		03/05/12 15:24		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	94.0	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	94.0	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	892	mg/L	5.0	1		02/28/12 14:46		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	30.0	mg/L	5.0	1		02/28/12 14:09		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	609	mg/L	50.0	50		03/07/12 12:23	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		03/05/12 13:12	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-4 SHALLOW	Lab ID: 60115895021	Collected: 02/21/12 11:40	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	46400 ug/L		20.0	5	03/02/12 08:34	03/06/12 17:04	7429-90-5	M1
Antimony	ND ug/L		0.50	1	03/02/12 08:34	03/06/12 17:00	7440-36-0	M1
Arsenic	33.1 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:00	7440-38-2	
Barium	1050 ug/L		1.5	5	03/02/12 08:34	03/06/12 17:04	7440-39-3	M1
Beryllium	3.2 ug/L		0.20	1	03/02/12 08:34	03/06/12 17:00	7440-41-7	
Cadmium	4.0 ug/L		0.080	1	03/02/12 08:34	03/06/12 17:00	7440-43-9	
Calcium	319000 ug/L		400	20	03/02/12 08:34	03/08/12 13:24	7440-70-2	M1
Chromium	49.3 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:00	7440-47-3	
Copper	240 ug/L		0.50	1	03/02/12 08:34	03/08/12 13:14	7440-50-8	
Iron	62500 ug/L		250	5	03/02/12 08:34	03/06/12 17:04	7439-89-6	M1
Magnesium	51000 ug/L		25.0	5	03/02/12 08:34	03/06/12 17:04	7439-95-4	M1
Manganese	3570 ug/L		10.0	20	03/02/12 08:34	03/06/12 17:07	7439-96-5	M1
Nickel	41.6 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:00	7440-02-0	
Potassium	11100 ug/L		20.0	1	03/02/12 08:34	03/08/12 13:14	7440-09-7	M1
Selenium	20.0 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:00	7782-49-2	
Silver	2.7 ug/L		0.50	1	03/02/12 08:34	03/08/12 13:14	7440-22-4	
Sodium	9640 ug/L		50.0	1	03/02/12 08:34	03/06/12 17:00	7440-23-5	M1
Thallium	0.90 ug/L		0.10	1	03/02/12 08:34	03/06/12 17:00	7440-28-0	
Total Hardness by 2340B	1010000 ug/L		1420	20	03/02/12 08:34	03/08/12 13:24		
Vanadium	57.7 ug/L		0.10	1	03/02/12 08:34	03/06/12 17:00	7440-62-2	
Zinc	854 ug/L		25.0	5	03/02/12 08:34	03/06/12 17:04	7440-66-6	M1
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	722 ug/L		4.0	1	03/01/12 08:01	03/02/12 16:42	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	03/01/12 08:01	03/02/12 16:42	7440-36-0	
Arsenic, Dissolved	0.69 ug/L		0.50	1	03/01/12 08:01	03/02/12 16:42	7440-38-2	
Barium, Dissolved	70.8 ug/L		0.30	1	03/01/12 08:01	03/02/12 16:42	7440-39-3	
Cadmium, Dissolved	1.1 ug/L		0.080	1	03/01/12 08:01	03/02/12 16:42	7440-43-9	
Calcium, Dissolved	286000 ug/L		400	20	03/01/12 08:01	03/02/12 16:47	7440-70-2	
Chromium, Dissolved	1.4 ug/L		0.50	1	03/01/12 08:01	03/02/12 16:42	7440-47-3	
Copper, Dissolved	6.4 ug/L		0.50	1	03/01/12 08:01	03/02/12 16:42	7440-50-8	
Iron, Dissolved	720 ug/L		50.0	1	03/01/12 08:01	03/02/12 16:42	7439-89-6	
Lead, Dissolved	3.7 ug/L		0.10	1	03/01/12 08:01	03/02/12 16:42	7439-92-1	
Magnesium, Dissolved	30000 ug/L		100	20	03/01/12 08:01	03/02/12 16:47	7439-95-4	
Manganese, Dissolved	1670 ug/L		10.0	20	03/01/12 08:01	03/02/12 16:47	7439-96-5	
Nickel, Dissolved	6.4 ug/L		0.50	1	03/01/12 08:01	03/02/12 16:42	7440-02-0	
Potassium, Dissolved	4020 ug/L		20.0	1	03/01/12 08:01	03/02/12 16:42	7440-09-7	
Selenium, Dissolved	13.0 ug/L		0.50	1	03/01/12 08:01	03/02/12 16:42	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	03/01/12 08:01	03/02/12 16:42	7440-22-4	
Sodium, Dissolved	9560 ug/L		50.0	1	03/01/12 08:01	03/02/12 16:42	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	03/01/12 08:01	03/02/12 16:42	7440-28-0	
Vanadium, Dissolved	1.0 ug/L		0.10	1	03/01/12 08:01	03/02/12 16:42	7440-62-2	
Zinc, Dissolved	97.9 ug/L		5.0	1	03/01/12 08:01	03/02/12 16:42	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:48	03/06/12 11:04	7439-97-6	M1

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-4 SHALLOW	Lab ID: 60115895021	Collected: 02/21/12 11:40	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:30	03/06/12 08:00	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1460	umhos/cm	10.0	1		03/05/12 15:25		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	933	mg/L	6.0	1		03/05/12 15:25		
Salinity (as seawater)	0.73	PSU	0.010	1		03/05/12 15:25		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	410	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	410	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	992	mg/L	5.0	1		02/28/12 14:46		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	1580	mg/L	5.0	1		02/28/12 14:09		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.9	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	453	mg/L	50.0	50		03/05/12 13:31	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		03/05/12 13:13	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-4 DEEP	Lab ID: 60115895022	Collected: 02/21/12 11:45	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	357 ug/L		4.0	1	03/02/12 08:34	03/06/12 17:10	7429-90-5	
Antimony	ND ug/L		0.50	1	03/02/12 08:34	03/06/12 17:10	7440-36-0	
Arsenic	0.78 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:10	7440-38-2	
Barium	22.0 ug/L		0.30	1	03/02/12 08:34	03/06/12 17:10	7440-39-3	
Beryllium	ND ug/L		0.20	1	03/02/12 08:34	03/06/12 17:10	7440-41-7	
Cadmium	2.7 ug/L		0.080	1	03/02/12 08:34	03/06/12 17:10	7440-43-9	
Calcium	317000 ug/L		400	20	03/02/12 08:34	03/08/12 13:10	7440-70-2	
Chromium	1.1 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:10	7440-47-3	
Copper	7.8 ug/L		0.50	1	03/02/12 08:34	03/08/12 13:07	7440-50-8	
Iron	737 ug/L		50.0	1	03/02/12 08:34	03/06/12 17:10	7439-89-6	
Magnesium	34200 ug/L		100	20	03/02/12 08:34	03/06/12 17:14	7439-95-4	
Manganese	57.2 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:10	7439-96-5	
Nickel	0.98 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:10	7440-02-0	
Potassium	2540 ug/L		20.0	1	03/02/12 08:34	03/08/12 13:07	7440-09-7	
Selenium	27.9 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:10	7782-49-2	
Silver	ND ug/L		0.50	1	03/02/12 08:34	03/08/12 13:07	7440-22-4	
Sodium	5600 ug/L		50.0	1	03/02/12 08:34	03/06/12 17:10	7440-23-5	
Thallium	ND ug/L		0.10	1	03/02/12 08:34	03/06/12 17:10	7440-28-0	
Total Hardness by 2340B	932000 ug/L		1420	20	03/02/12 08:34	03/08/12 13:10		
Vanadium	0.64 ug/L		0.10	1	03/02/12 08:34	03/06/12 17:10	7440-62-2	
Zinc	405 ug/L		5.0	1	03/02/12 08:34	03/06/12 17:10	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	56.2 ug/L		4.0	1	03/01/12 08:01	03/02/12 16:51	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	03/01/12 08:01	03/02/12 16:51	7440-36-0	
Arsenic, Dissolved	ND ug/L		0.50	1	03/01/12 08:01	03/02/12 16:51	7440-38-2	
Barium, Dissolved	18.6 ug/L		0.30	1	03/01/12 08:01	03/02/12 16:51	7440-39-3	
Cadmium, Dissolved	2.7 ug/L		0.080	1	03/01/12 08:01	03/02/12 16:51	7440-43-9	
Calcium, Dissolved	286000 ug/L		400	20	03/01/12 08:01	03/02/12 16:56	7440-70-2	
Chromium, Dissolved	0.85 ug/L		0.50	1	03/01/12 08:01	03/02/12 16:51	7440-47-3	
Copper, Dissolved	6.6 ug/L		0.50	1	03/01/12 08:01	03/02/12 16:51	7440-50-8	
Iron, Dissolved	488 ug/L		50.0	1	03/01/12 08:01	03/02/12 16:51	7439-89-6	
Lead, Dissolved	0.15 ug/L		0.10	1	03/01/12 08:01	03/02/12 16:51	7439-92-1	
Magnesium, Dissolved	31500 ug/L		100	20	03/01/12 08:01	03/02/12 16:56	7439-95-4	
Manganese, Dissolved	25.7 ug/L		0.50	1	03/01/12 08:01	03/02/12 16:51	7439-96-5	
Nickel, Dissolved	3.2 ug/L		0.50	1	03/01/12 08:01	03/02/12 16:51	7440-02-0	
Potassium, Dissolved	2450 ug/L		20.0	1	03/01/12 08:01	03/02/12 16:51	7440-09-7	
Selenium, Dissolved	28.8 ug/L		0.50	1	03/01/12 08:01	03/02/12 16:51	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	03/01/12 08:01	03/02/12 16:51	7440-22-4	
Sodium, Dissolved	5910 ug/L		50.0	1	03/01/12 08:01	03/02/12 16:51	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	03/01/12 08:01	03/02/12 16:51	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	03/01/12 08:01	03/02/12 16:51	7440-62-2	
Zinc, Dissolved	420 ug/L		5.0	1	03/01/12 08:01	03/02/12 16:51	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:48	03/06/12 11:10	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-4 DEEP	Lab ID: 60115895022	Collected: 02/21/12 11:45	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:30	03/06/12 08:06	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1440	umhos/cm	10.0	1		03/05/12 15:26		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	920	mg/L	6.0	1		03/05/12 15:26		
Salinity (as seawater)	0.72	PSU	0.010	1		03/05/12 15:26		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	424	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	424	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	1060	mg/L	5.0	1		02/28/12 14:46		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	11.0	mg/L	5.0	1		02/28/12 14:09		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.6	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	475	mg/L	50.0	50		03/05/12 14:53	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		03/05/12 13:13	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-5 SHALLOW	Lab ID: 60115895023	Collected: 02/21/12 14:20	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	10800 ug/L		4.0	1	03/02/12 08:34	03/06/12 17:17	7429-90-5	
Antimony	0.66 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:17	7440-36-0	
Arsenic	170 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:17	7440-38-2	
Barium	186 ug/L		0.30	1	03/02/12 08:34	03/06/12 17:17	7440-39-3	
Beryllium	2.2 ug/L		0.20	1	03/02/12 08:34	03/06/12 17:17	7440-41-7	
Cadmium	46.3 ug/L		0.080	1	03/02/12 08:34	03/06/12 17:17	7440-43-9	
Calcium	535000 ug/L		1000	50	03/02/12 08:34	03/08/12 13:41	7440-70-2	
Chromium	6.2 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:17	7440-47-3	
Copper	138 ug/L		0.50	1	03/02/12 08:34	03/08/12 13:38	7440-50-8	
Iron	265000 ug/L		1000	20	03/02/12 08:34	03/06/12 17:41	7439-89-6	
Magnesium	51300 ug/L		100	20	03/02/12 08:34	03/06/12 17:41	7439-95-4	
Manganese	11100 ug/L		25.0	50	03/02/12 08:34	03/08/12 13:41	7439-96-5	
Nickel	80.0 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:17	7440-02-0	
Potassium	4830 ug/L		20.0	1	03/02/12 08:34	03/08/12 13:38	7440-09-7	
Selenium	3.0 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:17	7782-49-2	
Silver	3.9 ug/L		0.50	1	03/02/12 08:34	03/08/12 13:38	7440-22-4	
Sodium	9140 ug/L		50.0	1	03/02/12 08:34	03/06/12 17:17	7440-23-5	
Thallium	0.54 ug/L		0.10	1	03/02/12 08:34	03/06/12 17:17	7440-28-0	
Total Hardness by 2340B	1550000 ug/L		3550	50	03/02/12 08:34	03/08/12 13:41		
Vanadium	9.4 ug/L		0.10	1	03/02/12 08:34	03/06/12 17:17	7440-62-2	
Zinc	33900 ug/L		500	100	03/02/12 08:34	03/08/12 15:54	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	3500 ug/L		4.0	1	03/01/12 08:01	03/02/12 17:01	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	03/01/12 08:01	03/02/12 17:01	7440-36-0	
Arsenic, Dissolved	136 ug/L		0.50	1	03/01/12 08:01	03/02/12 17:01	7440-38-2	
Barium, Dissolved	16.2 ug/L		0.30	1	03/01/12 08:01	03/02/12 17:01	7440-39-3	
Cadmium, Dissolved	21.6 ug/L		0.080	1	03/01/12 08:01	03/02/12 17:01	7440-43-9	
Calcium, Dissolved	502000 ug/L		2000	100	03/01/12 08:01	03/02/12 17:10	7440-70-2	
Chromium, Dissolved	1.0 ug/L		0.50	1	03/01/12 08:01	03/02/12 17:01	7440-47-3	
Copper, Dissolved	3.1 ug/L		0.50	1	03/01/12 08:01	03/02/12 17:01	7440-50-8	
Iron, Dissolved	214000 ug/L		500	10	03/01/12 08:01	03/02/12 17:05	7439-89-6	
Lead, Dissolved	188 ug/L		0.10	1	03/01/12 08:01	03/02/12 17:01	7439-92-1	
Magnesium, Dissolved	48900 ug/L		50.0	10	03/01/12 08:01	03/02/12 17:05	7439-95-4	
Manganese, Dissolved	10200 ug/L		50.0	100	03/01/12 08:01	03/02/12 17:10	7439-96-5	
Nickel, Dissolved	74.1 ug/L		0.50	1	03/01/12 08:01	03/02/12 17:01	7440-02-0	
Potassium, Dissolved	2700 ug/L		20.0	1	03/01/12 08:01	03/02/12 17:01	7440-09-7	
Selenium, Dissolved	1.6 ug/L		0.50	1	03/01/12 08:01	03/02/12 17:01	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	03/01/12 08:01	03/02/12 17:01	7440-22-4	
Sodium, Dissolved	9290 ug/L		50.0	1	03/01/12 08:01	03/02/12 17:01	7440-23-5	
Thallium, Dissolved	0.27 ug/L		0.10	1	03/01/12 08:01	03/02/12 17:01	7440-28-0	
Vanadium, Dissolved	0.24 ug/L		0.10	1	03/01/12 08:01	03/02/12 17:01	7440-62-2	
Zinc, Dissolved	30600 ug/L		500	100	03/01/12 08:01	03/02/12 17:10	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:48	03/06/12 11:12	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-5 SHALLOW	Lab ID: 60115895023	Collected: 02/21/12 14:20	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:30	03/06/12 08:12	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	3140	umhos/cm	10.0	1		03/05/12 15:29		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	2010	mg/L	6.0	1		03/05/12 15:29		
Salinity (as seawater)	1.6	PSU	0.010	1		03/05/12 15:29		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	44.0	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	44.0	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	2020	mg/L	5.0	1		02/28/12 14:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	43.0	mg/L	5.0	1		02/28/12 14:10		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.4	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	1520	mg/L	100	100		03/05/12 15:10	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		03/05/12 13:16	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-5 DEEP	Lab ID: 60115895024	Collected: 02/21/12 14:45	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	1440 ug/L		4.0	1	03/02/12 08:34	03/06/12 17:44	7429-90-5	
Antimony	ND ug/L		0.50	1	03/02/12 08:34	03/06/12 17:44	7440-36-0	
Arsenic	390 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:44	7440-38-2	
Barium	12.4 ug/L		0.30	1	03/02/12 08:34	03/06/12 17:44	7440-39-3	
Beryllium	2.6 ug/L		0.20	1	03/02/12 08:34	03/06/12 17:44	7440-41-7	
Cadmium	ND ug/L		0.080	1	03/02/12 08:34	03/06/12 17:44	7440-43-9	
Calcium	372000 ug/L		400	20	03/02/12 08:34	03/06/12 17:48	7440-70-2	
Chromium	0.60 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:44	7440-47-3	
Copper	0.59 ug/L		0.50	1	03/02/12 08:34	03/08/12 13:45	7440-50-8	
Iron	138000 ug/L		1000	20	03/02/12 08:34	03/06/12 17:48	7439-89-6	
Magnesium	73700 ug/L		100	20	03/02/12 08:34	03/06/12 17:48	7439-95-4	
Manganese	15900 ug/L		25.0	50	03/02/12 08:34	03/08/12 13:48	7439-96-5	
Nickel	17.0 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:44	7440-02-0	
Potassium	10600 ug/L		20.0	1	03/02/12 08:34	03/08/12 13:45	7440-09-7	
Selenium	ND ug/L		0.50	1	03/02/12 08:34	03/06/12 17:44	7782-49-2	
Silver	ND ug/L		0.50	1	03/02/12 08:34	03/08/12 13:45	7440-22-4	
Sodium	6590 ug/L		50.0	1	03/02/12 08:34	03/06/12 17:44	7440-23-5	
Thallium	ND ug/L		0.10	1	03/02/12 08:34	03/06/12 17:44	7440-28-0	
Total Hardness by 2340B	1230000 ug/L		1420	20	03/02/12 08:34	03/06/12 17:48		
Vanadium	ND ug/L		0.10	1	03/02/12 08:34	03/06/12 17:44	7440-62-2	
Zinc	18800 ug/L		250	50	03/02/12 08:34	03/08/12 13:48	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	1370 ug/L		4.0	1	03/01/12 08:01	03/02/12 13:46	7429-90-5	M6
Antimony, Dissolved	ND ug/L		0.50	1	03/01/12 08:01	03/02/12 13:46	7440-36-0	
Arsenic, Dissolved	220 ug/L		0.50	1	03/01/12 08:01	03/02/12 13:46	7440-38-2	
Barium, Dissolved	11.3 ug/L		0.30	1	03/01/12 08:01	03/02/12 13:46	7440-39-3	
Cadmium, Dissolved	ND ug/L		0.080	1	03/01/12 08:01	03/02/12 13:46	7440-43-9	
Calcium, Dissolved	362000 ug/L		2000	100	03/01/12 08:01	03/02/12 14:00	7440-70-2	M6
Chromium, Dissolved	0.54 ug/L		0.50	1	03/01/12 08:01	03/02/12 13:46	7440-47-3	
Copper, Dissolved	1.8 ug/L		0.50	1	03/01/12 08:01	03/02/12 13:46	7440-50-8	
Iron, Dissolved	142000 ug/L		500	10	03/01/12 08:01	03/02/12 13:55	7439-89-6	
Lead, Dissolved	0.18 ug/L		0.10	1	03/01/12 08:01	03/02/12 13:46	7439-92-1	
Magnesium, Dissolved	78600 ug/L		50.0	10	03/01/12 08:01	03/02/12 13:55	7439-95-4	M6
Manganese, Dissolved	14400 ug/L		50.0	100	03/01/12 08:01	03/02/12 14:00	7439-96-5	M6
Nickel, Dissolved	18.4 ug/L		0.50	1	03/01/12 08:01	03/02/12 13:46	7440-02-0	
Potassium, Dissolved	10100 ug/L		20.0	1	03/01/12 08:01	03/02/12 13:46	7440-09-7	M6
Selenium, Dissolved	ND ug/L		0.50	1	03/01/12 08:01	03/02/12 13:46	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	03/01/12 08:01	03/02/12 13:46	7440-22-4	
Sodium, Dissolved	6840 ug/L		50.0	1	03/01/12 08:01	03/02/12 13:46	7440-23-5	M6
Thallium, Dissolved	0.12 ug/L		0.10	1	03/01/12 08:01	03/02/12 13:46	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	03/01/12 08:01	03/02/12 13:46	7440-62-2	
Zinc, Dissolved	17200 ug/L		500	100	03/01/12 08:01	03/02/12 14:00	7440-66-6	M6
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:48	03/06/12 11:14	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-5 DEEP	Lab ID: 60115895024	Collected: 02/21/12 14:45	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:30	03/06/12 08:14	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	2230	umhos/cm	10.0	1		03/05/12 15:33		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	1430	mg/L	6.0	1		03/05/12 15:33		
Salinity (as seawater)	1.1	PSU	0.010	1		03/05/12 15:33		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	ND	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	2870	mg/L	5.0	1		02/28/12 14:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	592	mg/L	5.0	1		02/28/12 14:10		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	4.5	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	2960	mg/L	200	200		03/07/12 09:24	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		03/05/12 13:16	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-6 SHALLOW	Lab ID: 60115895025	Collected: 02/21/12 09:00	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	23600 ug/L		80.0	20	03/02/12 08:34	03/06/12 17:55	7429-90-5	
Antimony	0.72 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:51	7440-36-0	
Arsenic	108 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:51	7440-38-2	
Barium	215 ug/L		0.30	1	03/02/12 08:34	03/06/12 17:51	7440-39-3	
Beryllium	1.7 ug/L		0.20	1	03/02/12 08:34	03/06/12 17:51	7440-41-7	
Cadmium	17.3 ug/L		0.080	1	03/02/12 08:34	03/06/12 17:51	7440-43-9	
Calcium	434000 ug/L		400	20	03/02/12 08:34	03/08/12 13:55	7440-70-2	
Chromium	20.5 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:51	7440-47-3	
Copper	108 ug/L		0.50	1	03/02/12 08:34	03/08/12 13:51	7440-50-8	
Iron	108000 ug/L		1000	20	03/02/12 08:34	03/06/12 17:55	7439-89-6	
Magnesium	67400 ug/L		100	20	03/02/12 08:34	03/06/12 17:55	7439-95-4	
Manganese	7540 ug/L		10.0	20	03/02/12 08:34	03/06/12 17:55	7439-96-5	
Nickel	23.0 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:51	7440-02-0	
Potassium	15600 ug/L		20.0	1	03/02/12 08:34	03/08/12 13:51	7440-09-7	
Selenium	2.9 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:51	7782-49-2	
Silver	ND ug/L		0.50	1	03/02/12 08:34	03/08/12 13:51	7440-22-4	
Sodium	4520 ug/L		50.0	1	03/02/12 08:34	03/06/12 17:51	7440-23-5	
Thallium	0.64 ug/L		0.10	1	03/02/12 08:34	03/06/12 17:51	7440-28-0	
Total Hardness by 2340B	1360000 ug/L		1420	20	03/02/12 08:34	03/08/12 13:55		
Vanadium	26.7 ug/L		0.10	1	03/02/12 08:34	03/06/12 17:51	7440-62-2	
Zinc	3480 ug/L		100	20	03/02/12 08:34	03/06/12 17:55	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	1420 ug/L		4.0	1	03/01/12 08:01	03/02/12 17:24	7429-90-5	
Antimony, Dissolved	73.0 ug/L		0.50	1	03/01/12 08:01	03/02/12 17:24	7440-36-0	
Arsenic, Dissolved	284 ug/L		0.50	1	03/01/12 08:01	03/02/12 17:24	7440-38-2	
Barium, Dissolved	89.2 ug/L		0.30	1	03/01/12 08:01	03/02/12 17:24	7440-39-3	
Cadmium, Dissolved	73.2 ug/L		0.080	1	03/01/12 08:01	03/02/12 17:24	7440-43-9	
Calcium, Dissolved	363000 ug/L		400	20	03/01/12 08:01	03/02/12 17:29	7440-70-2	
Chromium, Dissolved	73.7 ug/L		0.50	1	03/01/12 08:01	03/02/12 17:24	7440-47-3	
Copper, Dissolved	67.4 ug/L		0.50	1	03/01/12 08:01	03/02/12 17:24	7440-50-8	
Iron, Dissolved	128000 ug/L		1000	20	03/01/12 08:01	03/02/12 17:29	7439-89-6	
Lead, Dissolved	76.0 ug/L		0.10	1	03/01/12 08:01	03/02/12 17:24	7439-92-1	
Magnesium, Dissolved	71700 ug/L		100	20	03/01/12 08:01	03/02/12 17:29	7439-95-4	
Manganese, Dissolved	7160 ug/L		50.0	100	03/01/12 08:01	03/04/12 20:20	7439-96-5	
Nickel, Dissolved	86.1 ug/L		0.50	1	03/01/12 08:01	03/02/12 17:24	7440-02-0	
Potassium, Dissolved	10900 ug/L		20.0	1	03/01/12 08:01	03/02/12 17:24	7440-09-7	
Selenium, Dissolved	74.5 ug/L		0.50	1	03/01/12 08:01	03/02/12 17:24	7782-49-2	
Silver, Dissolved	70.7 ug/L		0.50	1	03/01/12 08:01	03/02/12 17:24	7440-22-4	
Sodium, Dissolved	7630 ug/L		50.0	1	03/01/12 08:01	03/02/12 17:24	7440-23-5	
Thallium, Dissolved	82.0 ug/L		0.10	1	03/01/12 08:01	03/02/12 17:24	7440-28-0	
Vanadium, Dissolved	74.8 ug/L		0.10	1	03/01/12 08:01	03/02/12 17:24	7440-62-2	
Zinc, Dissolved	754 ug/L		500	100	03/01/12 08:01	03/04/12 20:20	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:48	03/06/12 11:20	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Sample: MW-6 SHALLOW	Lab ID: 60115895025	Collected: 02/21/12 09:00	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:30	03/06/12 08:16	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	2090	umhos/cm	10.0	1		03/05/12 15:34		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	1340	mg/L	6.0	1		03/05/12 15:34		
Salinity (as seawater)	1.1	PSU	0.010	1		03/05/12 15:34		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	96.0	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	96.0	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	1840	mg/L	5.0	1		02/28/12 14:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	624	mg/L	5.0	1		02/28/12 14:10		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.4	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	1200	mg/L	100	100		03/05/12 15:43	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	0.0073	mg/L	0.0050	1		03/05/12 13:17	57-12-5	

ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-6 DEEP	Lab ID: 60115895026	Collected: 02/21/12 09:10	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	455 ug/L		4.0	1	03/02/12 08:34	03/06/12 17:58	7429-90-5	
Antimony	ND ug/L		0.50	1	03/02/12 08:34	03/06/12 17:58	7440-36-0	
Arsenic	35.1 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:58	7440-38-2	
Barium	18.8 ug/L		0.30	1	03/02/12 08:34	03/06/12 17:58	7440-39-3	
Beryllium	0.67 ug/L		0.20	1	03/02/12 08:34	03/06/12 17:58	7440-41-7	
Cadmium	0.32 ug/L		0.080	1	03/02/12 08:34	03/06/12 17:58	7440-43-9	
Calcium	253000 ug/L		400	20	03/02/12 08:34	03/08/12 14:02	7440-70-2	
Chromium	1.2 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:58	7440-47-3	
Copper	2.0 ug/L		0.50	1	03/02/12 08:34	03/08/12 13:59	7440-50-8	
Iron	18000 ug/L		50.0	1	03/02/12 08:34	03/06/12 17:58	7439-89-6	
Magnesium	34800 ug/L		100	20	03/02/12 08:34	03/06/12 18:01	7439-95-4	
Manganese	7490 ug/L		10.0	20	03/02/12 08:34	03/06/12 18:01	7439-96-5	
Nickel	1.5 ug/L		0.50	1	03/02/12 08:34	03/06/12 17:58	7440-02-0	
Potassium	5800 ug/L		20.0	1	03/02/12 08:34	03/08/12 13:59	7440-09-7	
Selenium	ND ug/L		0.50	1	03/02/12 08:34	03/06/12 17:58	7782-49-2	
Silver	ND ug/L		0.50	1	03/02/12 08:34	03/08/12 13:59	7440-22-4	
Sodium	5160 ug/L		50.0	1	03/02/12 08:34	03/06/12 17:58	7440-23-5	
Thallium	ND ug/L		0.10	1	03/02/12 08:34	03/06/12 17:58	7440-28-0	
Total Hardness by 2340B	775000 ug/L		1420	20	03/02/12 08:34	03/08/12 14:02		
Vanadium	0.13 ug/L		0.10	1	03/02/12 08:34	03/06/12 17:58	7440-62-2	
Zinc	266 ug/L		5.0	1	03/02/12 08:34	03/06/12 17:58	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	355 ug/L		4.0	1	03/01/12 08:01	03/02/12 17:33	7429-90-5	
Antimony, Dissolved	ND ug/L		0.50	1	03/01/12 08:01	03/02/12 17:33	7440-36-0	
Arsenic, Dissolved	14.9 ug/L		0.50	1	03/01/12 08:01	03/02/12 17:33	7440-38-2	
Barium, Dissolved	16.8 ug/L		0.30	1	03/01/12 08:01	03/02/12 17:33	7440-39-3	
Cadmium, Dissolved	0.28 ug/L		0.080	1	03/01/12 08:01	03/02/12 17:33	7440-43-9	
Calcium, Dissolved	244000 ug/L		400	20	03/01/12 08:01	03/02/12 17:38	7440-70-2	
Chromium, Dissolved	0.88 ug/L		0.50	1	03/01/12 08:01	03/02/12 17:33	7440-47-3	
Copper, Dissolved	2.1 ug/L		0.50	1	03/01/12 08:01	03/02/12 17:33	7440-50-8	
Iron, Dissolved	14500 ug/L		50.0	1	03/01/12 08:01	03/02/12 17:33	7439-89-6	
Lead, Dissolved	0.44 ug/L		0.10	1	03/01/12 08:01	03/02/12 17:33	7439-92-1	
Magnesium, Dissolved	33400 ug/L		100	20	03/01/12 08:01	03/02/12 17:38	7439-95-4	
Manganese, Dissolved	7210 ug/L		10.0	20	03/01/12 08:01	03/02/12 17:38	7439-96-5	
Nickel, Dissolved	3.2 ug/L		0.50	1	03/01/12 08:01	03/02/12 17:33	7440-02-0	
Potassium, Dissolved	5940 ug/L		20.0	1	03/01/12 08:01	03/02/12 17:33	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	03/01/12 08:01	03/02/12 17:33	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	03/01/12 08:01	03/02/12 17:33	7440-22-4	
Sodium, Dissolved	5570 ug/L		50.0	1	03/01/12 08:01	03/02/12 17:33	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	03/01/12 08:01	03/02/12 17:33	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	03/01/12 08:01	03/02/12 17:33	7440-62-2	
Zinc, Dissolved	243 ug/L		5.0	1	03/01/12 08:01	03/02/12 17:33	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	03/01/12 11:48	03/06/12 11:22	7439-97-6	

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ANALYTICAL RESULTS

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Sample: MW-6 DEEP	Lab ID: 60115895026	Collected: 02/21/12 09:10	Received: 02/24/12 09:10	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/01/12 09:30	03/06/12 08:18	7439-97-6	
2510B Specific Conductance	Analytical Method: SM 2510B							
Specific Conductance	1350	umhos/cm	10.0	1		03/05/12 15:35		
Salinity	Analytical Method: Calculated							
Salinity (as dissolved solids)	863	mg/L	6.0	1		03/05/12 15:35		
Salinity (as seawater)	0.67	PSU	0.010	1		03/05/12 15:35		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	196	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		03/03/12 12:00		
Alkalinity, Total as CaCO3	196	mg/L	20.0	1		03/03/12 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	1020	mg/L	5.0	1		02/28/12 14:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	29.0	mg/L	5.0	1		02/28/12 14:10		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.7	Std. Units	0.10	1		02/25/12 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	648	mg/L	50.0	50		03/05/12 16:00	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		03/05/12 13:17	57-12-5	

Appendix D
Laboratory QC Results

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

QC Batch:	ICPM/31101	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
Associated Lab Samples:	60115895001, 60115895002, 60115895003, 60115895004, 60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016, 60115895017, 60115895018, 60115895019, 60115895020		

METHOD BLANK: 1146833

Matrix: Water

Associated Lab Samples: 60115895001, 60115895002, 60115895003, 60115895004, 60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016, 60115895017, 60115895018, 60115895019, 60115895020

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Aluminum	ug/L	ND	4.0	03/06/12 13:29	
Antimony	ug/L	ND	0.50	03/06/12 13:29	
Arsenic	ug/L	ND	0.50	03/06/12 13:29	
Barium	ug/L	ND	0.30	03/06/12 13:29	
Beryllium	ug/L	ND	0.20	03/06/12 13:29	
Cadmium	ug/L	ND	0.080	03/06/12 13:29	
Calcium	ug/L	ND	20.0	03/07/12 12:59	
Chromium	ug/L	ND	0.50	03/06/12 13:29	
Copper	ug/L	ND	0.50	03/06/12 13:29	
Iron	ug/L	ND	50.0	03/06/12 13:29	
Magnesium	ug/L	ND	5.0	03/06/12 13:29	
Manganese	ug/L	ND	0.50	03/06/12 13:29	
Nickel	ug/L	ND	0.50	03/06/12 13:29	
Potassium	ug/L	ND	20.0	03/07/12 12:59	
Selenium	ug/L	ND	0.50	03/06/12 13:29	
Silver	ug/L	ND	0.50	03/07/12 12:59	
Sodium	ug/L	ND	50.0	03/06/12 13:29	
Thallium	ug/L	ND	0.10	03/06/12 13:29	
Total Hardness by 2340B	ug/L	ND	71.0	03/06/12 13:29	
Vanadium	ug/L	ND	0.10	03/06/12 13:29	
Zinc	ug/L	ND	5.0	03/06/12 13:29	

LABORATORY CONTROL SAMPLE: 1146834

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Aluminum	ug/L	80	77.6	97	85-115	
Antimony	ug/L	80	74.3	93	85-115	
Arsenic	ug/L	80	74.8	93	85-115	
Barium	ug/L	80	76.0	95	85-115	
Beryllium	ug/L	80	72.6	91	85-115	
Cadmium	ug/L	80	76.6	96	85-115	
Calcium	ug/L	1000	1000	100	85-115	
Chromium	ug/L	80	75.2	94	85-115	
Copper	ug/L	80	76.8	96	85-115	
Iron	ug/L	1000	964	96	85-115	
Magnesium	ug/L	1000	982	98	85-115	
Manganese	ug/L	80	76.2	95	85-115	
Nickel	ug/L	80	77.4	97	85-115	

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QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

LABORATORY CONTROL SAMPLE: 1146834

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Potassium	ug/L	1000	958	96	85-115	
Selenium	ug/L	80	77.2	97	85-115	
Silver	ug/L	80	73.8	92	85-115	
Sodium	ug/L	1000	971	97	85-115	
Thallium	ug/L	80	80.6	101	85-115	
Total Hardness by 2340B	ug/L	6620	6540	99	85-115	
Vanadium	ug/L	80	75.8	95	85-115	
Zinc	ug/L	80	75.7	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1146835 1146836

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60115895001	Spike Conc.	Spike Conc.	Result								
Aluminum	ug/L	22.0	80	80	113	104	114	103	70-130	8	20		
Antimony	ug/L	ND	80	80	79.0	76.0	99	95	70-130	4	20		
Arsenic	ug/L	ND	80	80	79.2	77.2	99	96	70-130	3	20		
Barium	ug/L	71.5	80	80	146	141	93	87	70-130	4	20		
Beryllium	ug/L	ND	80	80	78.4	75.4	98	94	70-130	4	20		
Cadmium	ug/L	ND	80	80	78.2	75.2	98	94	70-130	4	20		
Calcium	ug/L	48600	1000	1000	49300	46900	64	-174	70-130	5	20	M1	
Chromium	ug/L	1.5	80	80	79.0	75.5	97	93	70-130	5	20		
Copper	ug/L	ND	80	80	77.8	74.2	97	92	70-130	5	20		
Iron	ug/L	ND	1000	1000	1020	1060	98	102	70-130	4	20		
Magnesium	ug/L	7340	1000	1000	8460	8050	112	71	70-130	5	20		
Manganese	ug/L	18.4	80	80	96.6	93.8	98	94	70-130	3	20		
Nickel	ug/L	ND	80	80	78.5	74.7	98	93	70-130	5	20		
Potassium	ug/L	670	1000	1000	1700	1610	103	94	70-130	5	20		
Selenium	ug/L	0.52	80	80	80.4	77.7	100	96	70-130	3	20		
Silver	ug/L	ND	80	80	64.4	64.8	80	81	70-130	.6	20		
Sodium	ug/L	3370	1000	1000	4420	4200	104	83	70-130	5	20		
Thallium	ug/L	ND	80	80	80.4	77.6	100	97	70-130	3	20		
Total Hardness by 2340B	ug/L	152000	6620	6620	158000	150000	94	-21	70-130	5	20		
Vanadium	ug/L	ND	80	80	78.4	75.8	98	95	70-130	3	20		
Zinc	ug/L	ND	80	80	84.0	79.1	102	96	70-130	6	20		

MATRIX SPIKE SAMPLE: 1146837

Parameter	Units	60115895011		Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
		Result	Conc.					
Aluminum	ug/L		ND	80	102	124	70-130	
Antimony	ug/L		ND	80	78.4	98	70-130	
Arsenic	ug/L		ND	80	81.0	101	70-130	
Barium	ug/L		ND	80	80.1	100	70-130	
Beryllium	ug/L		ND	80	70.0	88	70-130	
Cadmium	ug/L		ND	80	79.4	99	70-130	
Calcium	ug/L		ND	1000	1340	133	70-130	M1

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QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

MATRIX SPIKE SAMPLE:	1146837	60115895011		Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result						
Chromium	ug/L	ND	80	80.8	100	100	70-130	
Copper	ug/L	ND	80	80.8	101	101	70-130	
Iron	ug/L	ND	1000	998	100	100	70-130	
Magnesium	ug/L	ND	1000	1060	105	105	70-130	
Manganese	ug/L	ND	80	76.7	96	96	70-130	
Nickel	ug/L	ND	80	82.0	102	102	70-130	
Potassium	ug/L	ND	1000	984	98	98	70-130	
Selenium	ug/L	ND	80	79.8	100	100	70-130	
Silver	ug/L	ND	80	64.2	80	80	70-130	
Sodium	ug/L	388	1000	1420	103	103	70-130	
Thallium	ug/L	ND	80	81.3	102	102	70-130	
Total Hardness by 2340B	ug/L	ND	6620	7700	116	116	70-130	
Vanadium	ug/L	ND	80	79.6	99	99	70-130	
Zinc	ug/L	ND	80	82.0	101	101	70-130	

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

QC Batch: ICPM/31106 Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Associated Lab Samples: 60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026

METHOD BLANK: 1146870 Matrix: Water

Associated Lab Samples: 60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	4.0	03/06/12 16:57	
Antimony	ug/L	ND	0.50	03/06/12 16:57	
Arsenic	ug/L	ND	0.50	03/06/12 16:57	
Barium	ug/L	ND	0.30	03/06/12 16:57	
Beryllium	ug/L	ND	0.20	03/06/12 16:57	
Cadmium	ug/L	ND	0.080	03/06/12 16:57	
Calcium	ug/L	ND	20.0	03/08/12 13:00	
Chromium	ug/L	ND	0.50	03/06/12 16:57	
Copper	ug/L	ND	0.50	03/08/12 13:00	
Iron	ug/L	ND	50.0	03/06/12 16:57	
Magnesium	ug/L	ND	5.0	03/06/12 16:57	
Manganese	ug/L	ND	0.50	03/06/12 16:57	
Nickel	ug/L	ND	0.50	03/06/12 16:57	
Potassium	ug/L	ND	20.0	03/08/12 13:00	
Selenium	ug/L	ND	0.50	03/06/12 16:57	
Silver	ug/L	ND	0.50	03/08/12 13:00	
Sodium	ug/L	ND	50.0	03/06/12 16:57	
Thallium	ug/L	ND	0.10	03/06/12 16:57	
Total Hardness by 2340B	ug/L	ND	71.0	03/06/12 16:57	
Vanadium	ug/L	ND	0.10	03/06/12 16:57	
Zinc	ug/L	ND	5.0	03/06/12 16:57	

LABORATORY CONTROL SAMPLE: 1146871

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	80	80.7	101	85-115	
Antimony	ug/L	80	75.4	94	85-115	
Arsenic	ug/L	80	78.2	98	85-115	
Barium	ug/L	80	78.7	98	85-115	
Beryllium	ug/L	80	69.4	87	85-115	
Cadmium	ug/L	80	79.0	99	85-115	
Calcium	ug/L	1000	949	95	85-115	
Chromium	ug/L	80	79.4	99	85-115	
Copper	ug/L	80	76.4	96	85-115	
Iron	ug/L	1000	1020	102	85-115	
Magnesium	ug/L	1000	988	99	85-115	
Manganese	ug/L	80	75.2	94	85-115	
Nickel	ug/L	80	81.6	102	85-115	
Potassium	ug/L	1000	967	97	85-115	
Selenium	ug/L	80	78.5	98	85-115	
Silver	ug/L	80	76.7	96	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

LABORATORY CONTROL SAMPLE: 1146871

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sodium	ug/L	1000	1000	100	85-115	
Thallium	ug/L	80	81.3	102	85-115	
Total Hardness by 2340B	ug/L	6620	6440	97	85-115	
Vanadium	ug/L	80	78.6	98	85-115	
Zinc	ug/L	80	85.5	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1146872 1146873

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	RPD	Max Qual
		60115895021	Result	Spike Conc.	MS Result						
Aluminum	ug/L	46400	80	80	51400	49800	6280	4290	70-130	3	20 M1
Antimony	ug/L	ND	80	80	31.4	29.3	39	36	70-130	7	20 M1
Arsenic	ug/L	33.1	80	80	106	104	91	88	70-130	2	20
Barium	ug/L	1050	80	80	1120	1050	83	.6	70-130	6	20 M1
Beryllium	ug/L	3.2	80	80	67.0	62.8	80	74	70-130	6	20
Cadmium	ug/L	4.0	80	80	80.8	76.4	96	91	70-130	6	20
Calcium	ug/L	319000	1000	1000	308000	316000	-1120	-330	70-130	3	20 M1
Chromium	ug/L	49.3	80	80	130	124	100	93	70-130	5	20
Copper	ug/L	240	80	80	322	331	102	114	70-130	9	20
Iron	ug/L	62500	1000	1000	62700	59200	20	-325	70-130	6	20 M1
Magnesium	ug/L	51000	1000	1000	52200	49200	120	-181	70-130	6	20 M1
Manganese	ug/L	3570	80	80	3720	3470	182	-124	70-130	7	20 M1
Nickel	ug/L	41.6	80	80	121	114	99	91	70-130	6	20
Potassium	ug/L	11100	1000	1000	12200	12900	111	186	70-130	11	20 M1
Selenium	ug/L	20.0	80	80	91.8	90.5	90	88	70-130	1	20
Silver	ug/L	2.7	80	80	66.2	71.4	79	86	70-130	8	20
Sodium	ug/L	9640	1000	1000	11100	10600	145	96	70-130	4	20 M1
Thallium	ug/L	0.90	80	80	72.2	70.6	89	87	70-130	2	20
Total Hardness by 2340B	ug/L	101000	6620	6620	984000	991000	-348	-237	70-130	.7	20
Vanadium	ug/L	57.7	80	80	139	134	102	96	70-130	4	20
Zinc	ug/L	854	80	80	924	868	88	17	70-130	6	20 M1

MATRIX SPIKE SAMPLE: 1146874

Parameter	Units	10184095002		Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
		Result						
Aluminum	ug/L	<0.020		80	94.1	98	70-130	
Antimony	ug/L	<0.0010		80	68.9	86	70-130	
Arsenic	ug/L	0.0016		80	72.5	89	70-130	
Barium	ug/L	0.013		80	84.8	90	70-130	
Beryllium	ug/L	<0.00080		80	73.8	92	70-130	
Cadmium	ug/L	<0.000080		80	71.6	90	70-130	
Calcium	ug/L	19900	1000		18300	-160	70-130	M1
Chromium	ug/L	<0.0040		80	71.2	88	70-130	
Copper	ug/L	<0.0010		80	71.2	88	70-130	

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QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

MATRIX SPIKE SAMPLE: 1146874

Parameter	Units	10184095002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	0.053	1000	1020	97	70-130	
Magnesium	ug/L	5230	1000	5700	46	70-130	M1
Manganese	ug/L	<0.0040	80	70.6	85	70-130	
Nickel	ug/L	<0.0080	80	73.0	91	70-130	
Potassium	ug/L	755	1000	1670	91	70-130	
Selenium	ug/L	<0.0010	80	77.2	96	70-130	
Silver	ug/L	<0.00050	80	57.0	71	70-130	
Sodium	ug/L	12400	1000	12700	29	70-130	M1
Thallium	ug/L	<0.00010	80	74.2	93	70-130	
Total Hardness by 2340B	ug/L	71300	6620	69200	-31	70-130	
Vanadium	ug/L	<0.10	80	71.6	89	70-130	
Zinc	ug/L	0.018	80	93.1	94	70-130	

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

QC Batch:	ICPM/31104	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET Dissolved
Associated Lab Samples:	60115895001, 60115895002, 60115895003, 60115895004, 60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016, 60115895017, 60115895018, 60115895019		

METHOD BLANK: 1146860 Matrix: Water

Associated Lab Samples: 60115895001, 60115895002, 60115895003, 60115895004, 60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016, 60115895017, 60115895018, 60115895019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	4.0	03/06/12 13:01	
Antimony, Dissolved	ug/L	ND	0.50	03/06/12 13:01	
Arsenic, Dissolved	ug/L	ND	0.50	03/06/12 13:01	
Barium, Dissolved	ug/L	ND	0.30	03/06/12 13:01	
Cadmium, Dissolved	ug/L	ND	0.080	03/06/12 13:01	
Calcium, Dissolved	ug/L	ND	20.0	03/06/12 13:01	
Chromium, Dissolved	ug/L	ND	0.50	03/06/12 13:01	
Copper, Dissolved	ug/L	ND	0.50	03/06/12 13:01	
Iron, Dissolved	ug/L	ND	50.0	03/05/12 16:29	
Lead, Dissolved	ug/L	ND	0.10	03/06/12 13:01	
Magnesium, Dissolved	ug/L	ND	5.0	03/06/12 13:01	
Manganese, Dissolved	ug/L	ND	0.50	03/05/12 16:29	
Nickel, Dissolved	ug/L	ND	0.50	03/06/12 13:01	
Potassium, Dissolved	ug/L	ND	20.0	03/06/12 13:01	
Selenium, Dissolved	ug/L	ND	0.50	03/06/12 13:01	
Silver, Dissolved	ug/L	ND	0.50	03/06/12 13:01	
Sodium, Dissolved	ug/L	ND	50.0	03/06/12 13:01	
Thallium, Dissolved	ug/L	ND	0.10	03/06/12 13:01	
Vanadium, Dissolved	ug/L	ND	0.10	03/06/12 13:01	
Zinc, Dissolved	ug/L	ND	5.0	03/06/12 13:01	

LABORATORY CONTROL SAMPLE: 1146861

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	80	84.6	106	85-115	
Antimony, Dissolved	ug/L	80	78.6	98	85-115	
Arsenic, Dissolved	ug/L	80	76.5	96	85-115	
Barium, Dissolved	ug/L	80	79.6	99	85-115	
Cadmium, Dissolved	ug/L	80	79.0	99	85-115	
Calcium, Dissolved	ug/L	1000	963	96	85-115	
Chromium, Dissolved	ug/L	80	79.2	99	85-115	
Copper, Dissolved	ug/L	80	79.9	100	85-115	
Iron, Dissolved	ug/L	1000	953	95	85-115	
Lead, Dissolved	ug/L	80	79.7	100	85-115	
Magnesium, Dissolved	ug/L	1000	1020	102	85-115	
Manganese, Dissolved	ug/L	80	80.1	100	85-115	
Nickel, Dissolved	ug/L	80	79.0	99	85-115	
Potassium, Dissolved	ug/L	1000	1010	101	85-115	

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QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

LABORATORY CONTROL SAMPLE: 1146861

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Selenium, Dissolved	ug/L	80	82.0	102	85-115	
Silver, Dissolved	ug/L	80	79.4	99	85-115	
Sodium, Dissolved	ug/L	1000	989	99	85-115	
Thallium, Dissolved	ug/L	80	81.1	101	85-115	
Vanadium, Dissolved	ug/L	80	78.7	98	85-115	
Zinc, Dissolved	ug/L	80	83.3	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1146862 1146863

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max		
		60115796001	Spiked Result	Spiked Conc.	MS Result				RPD	RPD	Qual
Aluminum, Dissolved	ug/L	ND	80	80	106	100	129	122	70-130	5	20
Antimony, Dissolved	ug/L	ND	80	80	103	98.4	126	121	70-130	4	20
Arsenic, Dissolved	ug/L	9.8	80	80	107	106	122	120	70-130	1	20
Barium, Dissolved	ug/L	27.1	80	80	130	126	129	124	70-130	3	20
Cadmium, Dissolved	ug/L	7.5	80	80	108	104	126	120	70-130	4	20
Calcium, Dissolved	ug/L	75000	1000	1000	62400	58700	-1260	-1620	70-130	6	20 M6
Chromium, Dissolved	ug/L	ND	80	80	101	98.4	126	122	70-130	3	20
Copper, Dissolved	ug/L	13.6	80	80	114	107	126	117	70-130	6	20
Iron, Dissolved	ug/L	754	1000	1000	3740	1160	299	40	70-130	105	20 D6,M1
Lead, Dissolved	ug/L	59.4	80	80	162	158	129	123	70-130	3	20
Magnesium, Dissolved	ug/L	41600	1000	1000	46600	45200	504	360	70-130	3	20 M1
Manganese, Dissolved	ug/L	17.8	80	80	136	108	147	112	70-130	23	20 D6,M1
Nickel, Dissolved	ug/L	217	80	80	339	325	152	135	70-130	4	20 M1
Potassium, Dissolved	ug/L	4510	1000	1000	6180	6020	167	151	70-130	3	20 M1
Selenium, Dissolved	ug/L	ND	80	80	100	99.4	124	124	70-130	.7	20
Silver, Dissolved	ug/L	ND	80	80	94.0	93.6	116	116	70-130	.3	20
Sodium, Dissolved	ug/L	32000	1000	1000	36200	35200	422	318	70-130	3	20 M1
Thallium, Dissolved	ug/L	ND	80	80	99.0	96.6	123	120	70-130	3	20
Vanadium, Dissolved	ug/L	ND	80	80	101	97.0	126	121	70-130	4	20
Zinc, Dissolved	ug/L	1620	80	80	1890	1830	341	264	70-130	3	20 M1

MATRIX SPIKE SAMPLE: 1146864

Parameter	Units	60115895010		Spike Conc.	MS		MS % Rec	% Rec Limits	Qualifiers	
		Result	Conc.		Result	% Rec			Qualifiers	
Aluminum, Dissolved	ug/L	6.0	80	80.3	93	70-130				
Antimony, Dissolved	ug/L	ND	80	90.6	113	70-130				
Arsenic, Dissolved	ug/L	ND	80	86.2	107	70-130				
Barium, Dissolved	ug/L	75.1	80	178	128	70-130				
Cadmium, Dissolved	ug/L	0.62	80	90.0	112	70-130				
Chromium, Dissolved	ug/L	0.53	80	90.8	113	70-130				
Copper, Dissolved	ug/L	2.3	80	92.5	113	70-130				
Iron, Dissolved	ug/L	99.8	1000	1090	99	70-130				
Lead, Dissolved	ug/L	0.12	80	90.3	113	70-130				
Magnesium, Dissolved	ug/L	10000	1000	11100	106	70-130				

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QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

MATRIX SPIKE SAMPLE: 1146864

Parameter	Units	60115895010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	171	80	293	153	70-130	M1
Nickel, Dissolved	ug/L	1.8	80	88.8	109	70-130	
Potassium, Dissolved	ug/L	1340	1000	2560	123	70-130	
Selenium, Dissolved	ug/L	ND	80	72.5	90	70-130	
Silver, Dissolved	ug/L	ND	80	84.8	106	70-130	
Sodium, Dissolved	ug/L	5040	1000	5920	89	70-130	
Thallium, Dissolved	ug/L	ND	80	90.2	113	70-130	
Vanadium, Dissolved	ug/L	ND	80	89.7	112	70-130	
Zinc, Dissolved	ug/L	130	80	207	96	70-130	

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMPLING

Pace Project No.: 60115895

QC Batch: ICPM/31105

Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8

Analysis Description: 200.8 MET Dissolved

Associated Lab Samples: 60115895020, 60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026

METHOD BLANK: 1146865

Matrix: Water

Associated Lab Samples: 60115895020, 60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Aluminum, Dissolved	ug/L	ND	4.0	03/04/12 20:16	
Antimony, Dissolved	ug/L	ND	0.50	03/02/12 13:18	
Arsenic, Dissolved	ug/L	ND	0.50	03/02/12 13:18	
Barium, Dissolved	ug/L	ND	0.30	03/04/12 20:16	
Cadmium, Dissolved	ug/L	ND	0.080	03/02/12 13:18	
Calcium, Dissolved	ug/L	ND	20.0	03/04/12 20:16	
Chromium, Dissolved	ug/L	ND	0.50	03/02/12 13:18	
Copper, Dissolved	ug/L	ND	0.50	03/02/12 13:18	
Iron, Dissolved	ug/L	ND	50.0	03/04/12 20:16	
Lead, Dissolved	ug/L	ND	0.10	03/02/12 13:18	
Magnesium, Dissolved	ug/L	ND	5.0	03/04/12 20:16	
Manganese, Dissolved	ug/L	ND	0.50	03/04/12 20:16	
Nickel, Dissolved	ug/L	ND	0.50	03/02/12 13:18	
Potassium, Dissolved	ug/L	ND	20.0	03/02/12 13:18	
Selenium, Dissolved	ug/L	ND	0.50	03/02/12 13:18	
Silver, Dissolved	ug/L	ND	0.50	03/02/12 13:18	
Sodium, Dissolved	ug/L	ND	50.0	03/02/12 13:18	
Thallium, Dissolved	ug/L	ND	0.10	03/02/12 13:18	
Vanadium, Dissolved	ug/L	ND	0.10	03/04/12 20:16	
Zinc, Dissolved	ug/L	ND	5.0	03/02/12 13:18	

LABORATORY CONTROL SAMPLE: 1146866

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	80	86.8	109	85-115	
Antimony, Dissolved	ug/L	80	72.3	90	85-115	
Arsenic, Dissolved	ug/L	80	72.3	90	85-115	
Barium, Dissolved	ug/L	80	75.8	95	85-115	
Cadmium, Dissolved	ug/L	80	77.2	96	85-115	
Calcium, Dissolved	ug/L	1000	999	100	85-115	
Chromium, Dissolved	ug/L	80	77.1	96	85-115	
Copper, Dissolved	ug/L	80	75.5	94	85-115	
Iron, Dissolved	ug/L	1000	987	99	85-115	
Lead, Dissolved	ug/L	80	83.4	104	85-115	
Magnesium, Dissolved	ug/L	1000	984	98	85-115	
Manganese, Dissolved	ug/L	80	76.3	95	85-115	
Nickel, Dissolved	ug/L	80	77.0	96	85-115	
Potassium, Dissolved	ug/L	1000	956	96	85-115	
Selenium, Dissolved	ug/L	80	76.4	96	85-115	
Silver, Dissolved	ug/L	80	78.8	99	85-115	
Sodium, Dissolved	ug/L	1000	982	98	85-115	

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QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

LABORATORY CONTROL SAMPLE: 1146866

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Thallium, Dissolved	ug/L	80	87.5	109	85-115	
Vanadium, Dissolved	ug/L	80	75.8	95	85-115	
Zinc, Dissolved	ug/L	80	76.8	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1146867 1146868

Parameter	Units	MS Spike Conc.		MSD Spike Conc.		MS Result		MSD Result		% Rec Limits		Max RPD	RPD Qual
		10183973006	Result	Conc.	Conc.	Result	Conc.	Result	Conc.	Result	Conc.		
Aluminum, Dissolved	ug/L	4.4	80	80	109	116	131	140	140	70-130	6	20	M1
Antimony, Dissolved	ug/L	ND	80	80	91.4	93.0	114	116	116	70-130	2	20	
Arsenic, Dissolved	ug/L	3.9	80	80	96.3	99.0	116	119	119	70-130	3	20	
Barium, Dissolved	ug/L	66.7	80	80	173	179	133	140	140	70-130	3	20	
Cadmium, Dissolved	ug/L	ND	80	80	95.3	97.8	119	122	122	70-130	3	20	
Calcium, Dissolved	ug/L	31200	1000	1000	40500	40300	929	908	908	70-130	.5	20	M1
Chromium, Dissolved	ug/L	ND	80	80	96.4	96.6	120	120	120	70-130	.1	20	
Copper, Dissolved	ug/L	ND	80	80	94.3	96.8	118	121	121	70-130	3	20	
Iron, Dissolved	ug/L	290	1000	1000	1590	1580	130	129	129	70-130	.5	20	
Lead, Dissolved	ug/L	ND	80	80	102	104	127	130	130	70-130	2	20	
Magnesium, Dissolved	ug/L	5570	1000	1000	8190	8380	262	281	281	70-130	2	20	M1
Manganese, Dissolved	ug/L	37.3	80	80	139	142	127	130	130	70-130	2	20	
Nickel, Dissolved	ug/L	ND	80	80	94.2	98.4	118	123	123	70-130	4	20	
Potassium, Dissolved	ug/L	6490	1000	1000	9160	9300	268	282	282	70-130	2	20	M1
Selenium, Dissolved	ug/L	ND	80	80	93.2	97.6	116	122	122	70-130	5	20	
Silver, Dissolved	ug/L	ND	80	80	83.0	88.2	104	110	110	70-130	6	20	
Sodium, Dissolved	ug/L	16400	1000	1000	22800	23200	644	681	681	70-130	2	20	M1
Thallium, Dissolved	ug/L	ND	80	80	106	108	132	135	135	70-130	2	20	M1
Vanadium, Dissolved	ug/L	6.2	80	80	101	105	119	123	123	70-130	3	20	
Zinc, Dissolved	ug/L	ND	80	80	97.6	102	121	126	126	70-130	4	20	

MATRIX SPIKE SAMPLE: 1146869

Parameter	Units	60115895024 Result		Spike Conc.		MS Result		MS % Rec		% Rec Limits		Qualifiers
		Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	Conc.	Result	
Aluminum, Dissolved	ug/L		1370	80	1590		271		70-130		M6	
Antimony, Dissolved	ug/L		ND	80	79.6		99		70-130			
Arsenic, Dissolved	ug/L		220	80	312		116		70-130			
Barium, Dissolved	ug/L		11.3	80	93.5		103		70-130			
Cadmium, Dissolved	ug/L		ND	80	81.6		102		70-130			
Calcium, Dissolved	ug/L		362000	1000	406000		4400		70-130	E,M6		
Chromium, Dissolved	ug/L		0.54	80	80.7		100		70-130			
Copper, Dissolved	ug/L		1.8	80	81.6		100		70-130			
Iron, Dissolved	ug/L		142000	1000	144000		110		70-130			
Lead, Dissolved	ug/L		0.18	80	87.3		109		70-130			
Magnesium, Dissolved	ug/L		78600	1000	78600		4		70-130	M6		
Manganese, Dissolved	ug/L		14400	80	14600		138		70-130	E,M6		
Nickel, Dissolved	ug/L		18.4	80	99.7		102		70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

MATRIX SPIKE SAMPLE: 1146869

Parameter	Units	60115895024 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Potassium, Dissolved	ug/L	10100	1000	11600	146	70-130	M6
Selenium, Dissolved	ug/L	ND	80	78.3	98	70-130	
Silver, Dissolved	ug/L	ND	80	82.8	104	70-130	
Sodium, Dissolved	ug/L	6840	1000	8380	154	70-130	M6
Thallium, Dissolved	ug/L	0.12	80	91.7	114	70-130	
Vanadium, Dissolved	ug/L	ND	80	80.1	100	70-130	
Zinc, Dissolved	ug/L	17200	80	19100	2450	70-130	E,M6

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

QC Batch: MERC/6514 Analysis Method: EPA 245.1

QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury

Associated Lab Samples: 60115895001, 60115895002, 60115895003, 60115895004, 60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016, 60115895017, 60115895018, 60115895019, 60115895020

METHOD BLANK: 1147190 Matrix: Water

Associated Lab Samples: 60115895001, 60115895002, 60115895003, 60115895004, 60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016, 60115895017, 60115895018, 60115895019, 60115895020

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Mercury	ug/L	ND	0.20	03/06/12 09:51	

LABORATORY CONTROL SAMPLE: 1147191

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Mercury	ug/L	5	5.0	99	85-115	

MATRIX SPIKE SAMPLE: 1147194

Parameter	Units	60115895020	Spike	MS	MS	% Rec	Qualifiers
		Result	Conc.	Result	% Rec	Limits	
Mercury	ug/L	ND	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1147771 1147772

Parameter	Units	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		Spike	Spike								
Mercury	ug/L	ND	5	5	5.0	5.1	99	102	85-115	3	30

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

QC Batch:	MERC/6515	Analysis Method:	EPA 245.1
QC Batch Method:	EPA 245.1	Analysis Description:	245.1 Mercury
Associated Lab Samples:	60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026		

METHOD BLANK: 1147195 Matrix: Water

Associated Lab Samples: 60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Mercury	ug/L	ND	0.20	03/06/12 10:59	

LABORATORY CONTROL SAMPLE: 1147196

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1147197 1147198

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		60115895021	Spike										
Mercury	ug/L	ND	5	5	5.5	6.0	109	118	85-115	8	30	M1	

MATRIX SPIKE SAMPLE: 1147199

Parameter	Units	10184104004	Spike	MS	MS	% Rec	% Rec	Limits	Qualifiers
		Result	Conc.	Result	% Rec				
Mercury	ug/L	<0.037	5	5.0	100	85-115			

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

QC Batch:	MERC/6516	Analysis Method:	EPA 245.1
QC Batch Method:	EPA 245.1	Analysis Description:	245.1 Mercury - Dissolved
Associated Lab Samples:	60115895001, 60115895002, 60115895003, 60115895004, 60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016, 60115895017, 60115895018, 60115895019, 60115895020		

METHOD BLANK: 1147201 Matrix: Water

Associated Lab Samples: 60115895001, 60115895002, 60115895003, 60115895004, 60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016, 60115895017, 60115895018, 60115895019, 60115895020

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Mercury, Dissolved	ug/L	ND	0.20	03/06/12 08:47	

LABORATORY CONTROL SAMPLE: 1147202

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Mercury, Dissolved	ug/L	5	5.0	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1147203 1147204

Parameter	Units	60115895001	MS	MSD	MS	MSD	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		Result	Spike	Spike									
Mercury, Dissolved	ug/L	ND	5	5	5.2	5.4	104	107	85-115	3	20		

MATRIX SPIKE SAMPLE: 1147205

Parameter	Units	60115895020		Spike	MS	MS	% Rec	% Rec	Qualifiers
		Result	Conc.	Conc.	Result	% Rec	Limits		
Mercury, Dissolved	ug/L	ND	5	5	5.3	105	85-115		

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

QC Batch:	MERC/6517	Analysis Method:	EPA 245.1
QC Batch Method:	EPA 245.1	Analysis Description:	245.1 Mercury - Dissolved
Associated Lab Samples:	60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026		

METHOD BLANK: 1147207 Matrix: Water

Associated Lab Samples: 60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Mercury, Dissolved	ug/L	ND	0.20	03/06/12 07:56	

LABORATORY CONTROL SAMPLE: 1147208

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Mercury, Dissolved	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1147209 1147210

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		60115895021	Spike										
Mercury, Dissolved	ug/L	ND	5	5	4.5	4.8	90	96	85-115	6	20		

MATRIX SPIKE SAMPLE: 1147211

Parameter	Units	10184104004	Spike	MS	MS	% Rec	% Rec	Limits	Qualifiers
		Result	Conc.	Result	% Rec				
Mercury, Dissolved	ug/L	<0.037	5	4.3	86	85-115			

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

QC Batch:	MT/8238	Analysis Method:	SM 2510B
QC Batch Method:	SM 2510B	Analysis Description:	2510B Specific Conductance
Associated Lab Samples:	60115895001, 60115895002, 60115895003, 60115895004, 60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012		

METHOD BLANK: 1149133 Matrix: Water

Associated Lab Samples: 60115895001, 60115895002, 60115895003, 60115895004, 60115895005, 60115895006, 60115895007,
60115895008, 60115895009, 60115895010, 60115895011, 60115895012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	10.0	03/05/12 13:44	

LABORATORY CONTROL SAMPLE: 1149134

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	992	99	90-110	

SAMPLE DUPLICATE: 1149135

Parameter	Units	10184091001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	17.0	16.5	3	20	

SAMPLE DUPLICATE: 1149136

Parameter	Units	60115895003 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1250	1280	2	20	

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

QC Batch:	MT/8239	Analysis Method:	SM 2510B
QC Batch Method:	SM 2510B	Analysis Description:	2510B Specific Conductance
Associated Lab Samples:	60115895013, 60115895014, 60115895015, 60115895016, 60115895017, 60115895018, 60115895019, 60115895020, 60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026		

METHOD BLANK: 1149141 Matrix: Water

Associated Lab Samples: 60115895013, 60115895014, 60115895015, 60115895016, 60115895017, 60115895018, 60115895019,
60115895020, 60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	10.0	03/05/12 15:08	

LABORATORY CONTROL SAMPLE: 1149142

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	985	98	90-110	

SAMPLE DUPLICATE: 1149143

Parameter	Units	60115895014 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1330	1320	.9	20	

SAMPLE DUPLICATE: 1149144

Parameter	Units	60115895022 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1440	1420	1	20	

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

QC Batch:	WET/33750	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
Associated Lab Samples:	60115895001, 60115895002, 60115895003		

METHOD BLANK: 959115 Matrix: Water

Associated Lab Samples: 60115895001, 60115895002, 60115895003

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	20.0	03/02/12 14:30	
Alkalinity, Total as CaCO ₃	mg/L	ND	20.0	03/02/12 14:30	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	20.0	03/02/12 14:30	

LABORATORY CONTROL SAMPLE: 959116

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Alkalinity, Total as CaCO ₃	mg/L	500	510	102	90-110	

SAMPLE DUPLICATE: 959117

Parameter	Units	60115895001	Dup	Max	Qualifiers
		Result	Result	RPD	
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	ND		24
Alkalinity, Total as CaCO ₃	mg/L	108	108	0	9
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	108	108	0	9

SAMPLE DUPLICATE: 959118

Parameter	Units	60115895002	Dup	Max	Qualifiers
		Result	Result	RPD	
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	ND		24
Alkalinity, Total as CaCO ₃	mg/L	112	112	0	9
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	112	112	0	9

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

QC Batch:	WET/33765	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
Associated Lab Samples:	60115895004, 60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016, 60115895017, 60115895018, 60115895019, 60115895020, 60115895021, 60115895022, 60115895023		

METHOD BLANK:	959742	Matrix:	Water
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Associated Lab Samples:	60115895004, 60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016, 60115895017, 60115895018, 60115895019, 60115895020, 60115895021, 60115895022, 60115895023		
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Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	20.0	03/03/12 12:00	
Alkalinity, Total as CaCO ₃	mg/L	ND	20.0	03/03/12 12:00	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	20.0	03/03/12 12:00	

LABORATORY CONTROL SAMPLE:	959743
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Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Alkalinity, Total as CaCO ₃	mg/L	500	506	101	90-110	

SAMPLE DUPLICATE:	959744
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Parameter	Units	60115895004	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	ND		24	
Alkalinity, Total as CaCO ₃	mg/L	98.0	100	2	9	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	98.0	100	2	9	

SAMPLE DUPLICATE:	959745
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Parameter	Units	60115895005	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	ND		24	
Alkalinity, Total as CaCO ₃	mg/L	118	122	3	9	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	118	122	3	9	

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

QC Batch:	WET/33766	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
Associated Lab Samples:	60115895024, 60115895025, 60115895026		

METHOD BLANK: 959748 Matrix: Water

Associated Lab Samples: 60115895024, 60115895025, 60115895026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	20.0	03/03/12 12:00	
Alkalinity, Total as CaCO ₃	mg/L	ND	20.0	03/03/12 12:00	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	20.0	03/03/12 12:00	

LABORATORY CONTROL SAMPLE: 959749

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	502	100	90-110	

SAMPLE DUPLICATE: 959750

Parameter	Units	60115895024 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	ND		24	
Alkalinity, Total as CaCO ₃	mg/L	ND	ND		9	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	ND		9	

SAMPLE DUPLICATE: 959751

Parameter	Units	60116242002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	ND		24	
Alkalinity, Total as CaCO ₃	mg/L	372	378	2	9	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	372	378	2	9	

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

QC Batch:	WET/33686	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
Associated Lab Samples:	60115895017, 60115895018, 60115895019, 60115895020, 60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026		

METHOD BLANK:	957355	Matrix:	Water
Associated Lab Samples:	60115895017, 60115895018, 60115895019, 60115895020, 60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	02/28/12 14:45	

SAMPLE DUPLICATE: 957356

Parameter	Units	60115683001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	897	836	7	17	

SAMPLE DUPLICATE: 957357

Parameter	Units	60115895024 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2870	2860	0	17	

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

QC Batch:	WET/33707	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
Associated Lab Samples:	60115895001, 60115895002, 60115895003, 60115895004, 60115895005		

METHOD BLANK: 957709 Matrix: Water

Associated Lab Samples: 60115895001, 60115895002, 60115895003, 60115895004, 60115895005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	02/29/12 13:01	

SAMPLE DUPLICATE: 957710

Parameter	Units	60116074001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1090	1100	0	17	

SAMPLE DUPLICATE: 957711

Parameter	Units	60115893005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	289	266	8	17	

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

QC Batch:	WET/33708	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
Associated Lab Samples:	60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016		

METHOD BLANK:	957712	Matrix:	Water
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Associated Lab Samples:	60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016		
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Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	02/29/12 14:07	

SAMPLE DUPLICATE: 957713

Parameter	Units	60115895006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1050	1070	2	17	

SAMPLE DUPLICATE: 957714

Parameter	Units	60115895016 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	7450	7530	1	17	

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

QC Batch:	WET/33684	Analysis Method:	SM 2540D
QC Batch Method:	SM 2540D	Analysis Description:	2540D Total Suspended Solids
Associated Lab Samples:	60115895017, 60115895018, 60115895019, 60115895020, 60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026		

METHOD BLANK:	957349	Matrix:	Water
Associated Lab Samples:	60115895017, 60115895018, 60115895019, 60115895020, 60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	02/28/12 14:08	

SAMPLE DUPLICATE: 957350

Parameter	Units	60115730001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	320	284	12	25	

SAMPLE DUPLICATE: 957351

Parameter	Units	60115895024 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	592	604	2	25	

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

QC Batch:	WET/33685	Analysis Method:	SM 2540D
QC Batch Method:	SM 2540D	Analysis Description:	2540D Total Suspended Solids
Associated Lab Samples:	60115895001, 60115895002, 60115895003, 60115895004		

METHOD BLANK: 957352 Matrix: Water

Associated Lab Samples: 60115895001, 60115895002, 60115895003, 60115895004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	02/28/12 14:11	

SAMPLE DUPLICATE: 957353

Parameter	Units	60115799001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	56.0	68.0	19	25	

SAMPLE DUPLICATE: 957354

Parameter	Units	60115872001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	13.0	7.0	60	25	R1

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

QC Batch:	WET/33710	Analysis Method:	SM 2540D
QC Batch Method:	SM 2540D	Analysis Description:	2540D Total Suspended Solids
Associated Lab Samples:	60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016		

METHOD BLANK:	957716	Matrix:	Water
Associated Lab Samples:	60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	02/29/12 12:36	

SAMPLE DUPLICATE: 957717

Parameter	Units	60115895005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	12.0	14.0	15	25	

SAMPLE DUPLICATE: 957718

Parameter	Units	60115895015 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	74.0	79.0	7	25	

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

QC Batch: WET/33647 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60115895001, 60115895002, 60115895003

SAMPLE DUPLICATE: 956444

Parameter	Units	60115893002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	5	H6

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

QC Batch: WET/33649 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60115895004, 60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016, 60115895017, 60115895018, 60115895019, 60115895020, 60115895021, 60115895022, 60115895023

SAMPLE DUPLICATE: 956454

Parameter	Units	60115895004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	7.9	0	5	H6

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

QC Batch: WET/33650 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60115895024, 60115895025, 60115895026

SAMPLE DUPLICATE: 956456

Parameter	Units	60115895024 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	4.5	4.4	0	5	H6

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

QC Batch:	WETA/19392	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
Associated Lab Samples:	60115895001, 60115895002, 60115895003, 60115895004, 60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016, 60115895017, 60115895018, 60115895019, 60115895020		

METHOD BLANK: 960061 Matrix: Water

Associated Lab Samples: 60115895001, 60115895003, 60115895004, 60115895005, 60115895006, 60115895008, 60115895010, 60115895011, 60115895012, 60115895014, 60115895015, 60115895016, 60115895017

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Sulfate	mg/L	ND	1.0	03/06/12 10:29	

METHOD BLANK: 961150 Matrix: Water

Associated Lab Samples: 60115895002, 60115895007, 60115895009, 60115895013, 60115895018, 60115895019, 60115895020

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Sulfate	mg/L	ND	1.0	03/07/12 10:38	

LABORATORY CONTROL SAMPLE: 960062

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Sulfate	mg/L	5	5.4	108	90-110	

LABORATORY CONTROL SAMPLE: 961151

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Sulfate	mg/L	5	4.8	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 960063 960064

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		Spike	Spike										
Sulfate	mg/L	60115895001	25	76.3	25	105	113	115	149	61-119	8	10	M0

MATRIX SPIKE SAMPLE: 960065

Parameter	Units	60115895010	Spike	MS	MS	% Rec	% Rec	Qualifiers
		Result	Conc.	Result	% Rec	Limits		
Sulfate	mg/L	176	50	221	89	61-119		

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

QC Batch:	WETA/19394	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
Associated Lab Samples:	60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026		

METHOD BLANK: 960095 Matrix: Water

Associated Lab Samples: 60115895021, 60115895022, 60115895023, 60115895025, 60115895026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	03/05/12 12:57	

METHOD BLANK: 960868 Matrix: Water

Associated Lab Samples: 60115895021, 60115895022, 60115895023, 60115895025, 60115895026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	03/06/12 09:15	

METHOD BLANK: 961154 Matrix: Water

Associated Lab Samples: 60115895024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	03/07/12 08:51	

LABORATORY CONTROL SAMPLE: 960096

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.0	100	90-110	

LABORATORY CONTROL SAMPLE: 960869

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.2	103	90-110	

LABORATORY CONTROL SAMPLE: 961155

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	4.9	99	90-110	

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:			960097		960098							
Parameter	Units	Result	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD
			Spike Conc.	Spike Conc.								
Sulfate	mg/L	453	250	250	716	697	105	98	61-119	3	10	

MATRIX SPIKE SAMPLE:			960099							
Parameter	Units	Result	5059127004	Spike	MS	MS	% Rec	% Rec	Limits	Qualifiers
			Result	Conc.	Result	% Rec	% Rec	Limits		
Sulfate	mg/L	112	200	309	98	98	98	61-119		

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

QC Batch: WETA/19347 Analysis Method: SM 4500-CN-E

QC Batch Method: SM 4500-CN-E Analysis Description: 4500CNE Cyanide, Total

Associated Lab Samples: 60115895001, 60115895002, 60115895003, 60115895004, 60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016, 60115895017

METHOD BLANK: 957665 Matrix: Water

Associated Lab Samples: 60115895001, 60115895002, 60115895003, 60115895004, 60115895005, 60115895006, 60115895007, 60115895008, 60115895009, 60115895010, 60115895011, 60115895012, 60115895013, 60115895014, 60115895015, 60115895016, 60115895017

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Cyanide	mg/L	ND	0.0050	02/29/12 16:40	

LABORATORY CONTROL SAMPLE: 957666

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Cyanide	mg/L	.1	0.10	105	69-126	

MATRIX SPIKE SAMPLE: 957668

Parameter	Units	60116072001	Spike	MS	MS	% Rec	Qualifiers
		Result	Conc.	Result	% Rec	Limits	
Cyanide	mg/L	ND	.1	0.092	87	41-136	

SAMPLE DUPLICATE: 957667

Parameter	Units	60115335010	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
Cyanide	mg/L	0.68	0.74	9	26	

QUALITY CONTROL DATA

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

QC Batch:	WETA/19389	Analysis Method:	SM 4500-CN-E
QC Batch Method:	SM 4500-CN-E	Analysis Description:	4500CNE Cyanide, Total
Associated Lab Samples:	60115895018, 60115895019, 60115895020, 60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026		

METHOD BLANK:	959974	Matrix:	Water
Associated Lab Samples:	60115895018, 60115895019, 60115895020, 60115895021, 60115895022, 60115895023, 60115895024, 60115895025, 60115895026		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	mg/L	ND	0.0050	03/05/12 13:01	

LABORATORY CONTROL SAMPLE: 959975

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	.1	0.12	115	69-126	

MATRIX SPIKE SAMPLE: 959977

Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	60116100001	ND	.1	0.11	104	41-136 M1

SAMPLE DUPLICATE: 959976

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Cyanide	mg/L	60116243001	0.026	0.027	3	26

QUALIFIERS

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

- D6 The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
- E Analyte concentration exceeded the calibration range. The reported result is estimated.
- H6 Analysis initiated more than 15 minutes after sample collection.
- M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
- R1 RPD value was outside control limits.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60115895001	DR-1	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895002	DR-2	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895003	DR-3	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895004	DR-4	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895005	DR-5	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895006	DR-6	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895007	DR-7	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895008	DR-8	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895009	DR-4-SW	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895010	DR-G	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895011	FB	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895012	GW-3	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895013	GW-5	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895014	GW-7	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895015	EB-1	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895016	EB-2	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895017	MW-1 SHALLOW	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895018	MW-1 DEEP	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895019	MW-2 DEEP	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895020	MW-3 DEEP	EPA 200.8	ICPM/31101	EPA 200.8	ICPM/12363
60115895021	MW-4 SHALLOW	EPA 200.8	ICPM/31106	EPA 200.8	ICPM/12364
60115895022	MW-4 DEEP	EPA 200.8	ICPM/31106	EPA 200.8	ICPM/12364
60115895023	MW-5 SHALLOW	EPA 200.8	ICPM/31106	EPA 200.8	ICPM/12364
60115895024	MW-5 DEEP	EPA 200.8	ICPM/31106	EPA 200.8	ICPM/12364
60115895025	MW-6 SHALLOW	EPA 200.8	ICPM/31106	EPA 200.8	ICPM/12364
60115895026	MW-6 DEEP	EPA 200.8	ICPM/31106	EPA 200.8	ICPM/12364
60115895001	DR-1	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895002	DR-2	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895003	DR-3	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895004	DR-4	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895005	DR-5	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895006	DR-6	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895007	DR-7	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895008	DR-8	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895009	DR-4-SW	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895010	DR-G	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895011	FB	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895012	GW-3	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895013	GW-5	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895014	GW-7	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895015	EB-1	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895016	EB-2	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895017	MW-1 SHALLOW	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895018	MW-1 DEEP	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895019	MW-2 DEEP	EPA 200.8	ICPM/31104	EPA 200.8	ICPM/12356
60115895020	MW-3 DEEP	EPA 200.8	ICPM/31105	EPA 200.8	ICPM/12355
60115895021	MW-4 SHALLOW	EPA 200.8	ICPM/31105	EPA 200.8	ICPM/12355

Date: 03/16/2012 01:19 PM

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60115895022	MW-4 DEEP	EPA 200.8	ICPM/31105	EPA 200.8	ICPM/12355
60115895023	MW-5 SHALLOW	EPA 200.8	ICPM/31105	EPA 200.8	ICPM/12355
60115895024	MW-5 DEEP	EPA 200.8	ICPM/31105	EPA 200.8	ICPM/12355
60115895025	MW-6 SHALLOW	EPA 200.8	ICPM/31105	EPA 200.8	ICPM/12355
60115895026	MW-6 DEEP	EPA 200.8	ICPM/31105	EPA 200.8	ICPM/12355
60115895001	DR-1	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895002	DR-2	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895003	DR-3	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895004	DR-4	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895005	DR-5	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895006	DR-6	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895007	DR-7	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895008	DR-8	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895009	DR-4-SW	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895010	DR-G	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895011	FB	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895012	GW-3	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895013	GW-5	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895014	GW-7	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895015	EB-1	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895016	EB-2	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895017	MW-1 SHALLOW	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895018	MW-1 DEEP	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895019	MW-2 DEEP	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895020	MW-3 DEEP	EPA 245.1	MERC/6514	EPA 245.1	MERC/7324
60115895021	MW-4 SHALLOW	EPA 245.1	MERC/6515	EPA 245.1	MERC/7323
60115895022	MW-4 DEEP	EPA 245.1	MERC/6515	EPA 245.1	MERC/7323
60115895023	MW-5 SHALLOW	EPA 245.1	MERC/6515	EPA 245.1	MERC/7323
60115895024	MW-5 DEEP	EPA 245.1	MERC/6515	EPA 245.1	MERC/7323
60115895025	MW-6 SHALLOW	EPA 245.1	MERC/6515	EPA 245.1	MERC/7323
60115895026	MW-6 DEEP	EPA 245.1	MERC/6515	EPA 245.1	MERC/7323
60115895001	DR-1	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895002	DR-2	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895003	DR-3	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895004	DR-4	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895005	DR-5	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895006	DR-6	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895007	DR-7	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895008	DR-8	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895009	DR-4-SW	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895010	DR-G	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895011	FB	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895012	GW-3	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895013	GW-5	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895014	GW-7	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895015	EB-1	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895016	EB-2	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60115895017	MW-1 SHALLOW	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895018	MW-1 DEEP	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895019	MW-2 DEEP	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895020	MW-3 DEEP	EPA 245.1	MERC/6516	EPA 245.1	MERC/7321
60115895021	MW-4 SHALLOW	EPA 245.1	MERC/6517	EPA 245.1	MERC/7322
60115895022	MW-4 DEEP	EPA 245.1	MERC/6517	EPA 245.1	MERC/7322
60115895023	MW-5 SHALLOW	EPA 245.1	MERC/6517	EPA 245.1	MERC/7322
60115895024	MW-5 DEEP	EPA 245.1	MERC/6517	EPA 245.1	MERC/7322
60115895025	MW-6 SHALLOW	EPA 245.1	MERC/6517	EPA 245.1	MERC/7322
60115895026	MW-6 DEEP	EPA 245.1	MERC/6517	EPA 245.1	MERC/7322
60115895001	DR-1	SM 2510B	MT/8238		
60115895002	DR-2	SM 2510B	MT/8238		
60115895003	DR-3	SM 2510B	MT/8238		
60115895004	DR-4	SM 2510B	MT/8238		
60115895005	DR-5	SM 2510B	MT/8238		
60115895006	DR-6	SM 2510B	MT/8238		
60115895007	DR-7	SM 2510B	MT/8238		
60115895008	DR-8	SM 2510B	MT/8238		
60115895009	DR-4-SW	SM 2510B	MT/8238		
60115895010	DR-G	SM 2510B	MT/8238		
60115895011	FB	SM 2510B	MT/8238		
60115895012	GW-3	SM 2510B	MT/8238		
60115895013	GW-5	SM 2510B	MT/8239		
60115895014	GW-7	SM 2510B	MT/8239		
60115895015	EB-1	SM 2510B	MT/8239		
60115895016	EB-2	SM 2510B	MT/8239		
60115895017	MW-1 SHALLOW	SM 2510B	MT/8239		
60115895018	MW-1 DEEP	SM 2510B	MT/8239		
60115895019	MW-2 DEEP	SM 2510B	MT/8239		
60115895020	MW-3 DEEP	SM 2510B	MT/8239		
60115895021	MW-4 SHALLOW	SM 2510B	MT/8239		
60115895022	MW-4 DEEP	SM 2510B	MT/8239		
60115895023	MW-5 SHALLOW	SM 2510B	MT/8239		
60115895024	MW-5 DEEP	SM 2510B	MT/8239		
60115895025	MW-6 SHALLOW	SM 2510B	MT/8239		
60115895026	MW-6 DEEP	SM 2510B	MT/8239		
60115895001	DR-1	Calculated	MT/8243		
60115895002	DR-2	Calculated	MT/8243		
60115895003	DR-3	Calculated	MT/8243		
60115895004	DR-4	Calculated	MT/8243		
60115895005	DR-5	Calculated	MT/8243		
60115895006	DR-6	Calculated	MT/8243		
60115895007	DR-7	Calculated	MT/8243		
60115895008	DR-8	Calculated	MT/8243		
60115895009	DR-4-SW	Calculated	MT/8243		
60115895010	DR-G	Calculated	MT/8243		
60115895011	FB	Calculated	MT/8243		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60115895012	GW-3	Calculated	MT/8243		
60115895013	GW-5	Calculated	MT/8243		
60115895014	GW-7	Calculated	MT/8243		
60115895015	EB-1	Calculated	MT/8243		
60115895016	EB-2	Calculated	MT/8243		
60115895017	MW-1 SHALLOW	Calculated	MT/8243		
60115895018	MW-1 DEEP	Calculated	MT/8243		
60115895019	MW-2 DEEP	Calculated	MT/8243		
60115895020	MW-3 DEEP	Calculated	MT/8243		
60115895021	MW-4 SHALLOW	Calculated	MT/8244		
60115895022	MW-4 DEEP	Calculated	MT/8244		
60115895023	MW-5 SHALLOW	Calculated	MT/8244		
60115895024	MW-5 DEEP	Calculated	MT/8244		
60115895025	MW-6 SHALLOW	Calculated	MT/8244		
60115895026	MW-6 DEEP	Calculated	MT/8244		
60115895001	DR-1	SM 2320B	WET/33750		
60115895002	DR-2	SM 2320B	WET/33750		
60115895003	DR-3	SM 2320B	WET/33750		
60115895004	DR-4	SM 2320B	WET/33765		
60115895005	DR-5	SM 2320B	WET/33765		
60115895006	DR-6	SM 2320B	WET/33765		
60115895007	DR-7	SM 2320B	WET/33765		
60115895008	DR-8	SM 2320B	WET/33765		
60115895009	DR-4-SW	SM 2320B	WET/33765		
60115895010	DR-G	SM 2320B	WET/33765		
60115895011	FB	SM 2320B	WET/33765		
60115895012	GW-3	SM 2320B	WET/33765		
60115895013	GW-5	SM 2320B	WET/33765		
60115895014	GW-7	SM 2320B	WET/33765		
60115895015	EB-1	SM 2320B	WET/33765		
60115895016	EB-2	SM 2320B	WET/33765		
60115895017	MW-1 SHALLOW	SM 2320B	WET/33765		
60115895018	MW-1 DEEP	SM 2320B	WET/33765		
60115895019	MW-2 DEEP	SM 2320B	WET/33765		
60115895020	MW-3 DEEP	SM 2320B	WET/33765		
60115895021	MW-4 SHALLOW	SM 2320B	WET/33765		
60115895022	MW-4 DEEP	SM 2320B	WET/33765		
60115895023	MW-5 SHALLOW	SM 2320B	WET/33765		
60115895024	MW-5 DEEP	SM 2320B	WET/33766		
60115895025	MW-6 SHALLOW	SM 2320B	WET/33766		
60115895026	MW-6 DEEP	SM 2320B	WET/33766		
60115895001	DR-1	SM 2540C	WET/33707		
60115895002	DR-2	SM 2540C	WET/33707		
60115895003	DR-3	SM 2540C	WET/33707		
60115895004	DR-4	SM 2540C	WET/33707		
60115895005	DR-5	SM 2540C	WET/33707		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60115895006	DR-6	SM 2540C	WET/33708		
60115895007	DR-7	SM 2540C	WET/33708		
60115895008	DR-8	SM 2540C	WET/33708		
60115895009	DR-4-SW	SM 2540C	WET/33708		
60115895010	DR-G	SM 2540C	WET/33708		
60115895011	FB	SM 2540C	WET/33708		
60115895012	GW-3	SM 2540C	WET/33708		
60115895013	GW-5	SM 2540C	WET/33708		
60115895014	GW-7	SM 2540C	WET/33708		
60115895015	EB-1	SM 2540C	WET/33708		
60115895016	EB-2	SM 2540C	WET/33708		
60115895017	MW-1 SHALLOW	SM 2540C	WET/33686		
60115895018	MW-1 DEEP	SM 2540C	WET/33686		
60115895019	MW-2 DEEP	SM 2540C	WET/33686		
60115895020	MW-3 DEEP	SM 2540C	WET/33686		
60115895021	MW-4 SHALLOW	SM 2540C	WET/33686		
60115895022	MW-4 DEEP	SM 2540C	WET/33686		
60115895023	MW-5 SHALLOW	SM 2540C	WET/33686		
60115895024	MW-5 DEEP	SM 2540C	WET/33686		
60115895025	MW-6 SHALLOW	SM 2540C	WET/33686		
60115895026	MW-6 DEEP	SM 2540C	WET/33686		
60115895001	DR-1	SM 2540D	WET/33685		
60115895002	DR-2	SM 2540D	WET/33685		
60115895003	DR-3	SM 2540D	WET/33685		
60115895004	DR-4	SM 2540D	WET/33685		
60115895005	DR-5	SM 2540D	WET/33710		
60115895006	DR-6	SM 2540D	WET/33710		
60115895007	DR-7	SM 2540D	WET/33710		
60115895008	DR-8	SM 2540D	WET/33710		
60115895009	DR-4-SW	SM 2540D	WET/33710		
60115895010	DR-G	SM 2540D	WET/33710		
60115895011	FB	SM 2540D	WET/33710		
60115895012	GW-3	SM 2540D	WET/33710		
60115895013	GW-5	SM 2540D	WET/33710		
60115895014	GW-7	SM 2540D	WET/33710		
60115895015	EB-1	SM 2540D	WET/33710		
60115895016	EB-2	SM 2540D	WET/33710		
60115895017	MW-1 SHALLOW	SM 2540D	WET/33684		
60115895018	MW-1 DEEP	SM 2540D	WET/33684		
60115895019	MW-2 DEEP	SM 2540D	WET/33684		
60115895020	MW-3 DEEP	SM 2540D	WET/33684		
60115895021	MW-4 SHALLOW	SM 2540D	WET/33684		
60115895022	MW-4 DEEP	SM 2540D	WET/33684		
60115895023	MW-5 SHALLOW	SM 2540D	WET/33684		
60115895024	MW-5 DEEP	SM 2540D	WET/33684		
60115895025	MW-6 SHALLOW	SM 2540D	WET/33684		
60115895026	MW-6 DEEP	SM 2540D	WET/33684		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RICO FEBRUARY 2012 WATER SAMP

Pace Project No.: 60115895

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60115895001	DR-1	SM 4500-H+B	WET/33647		
60115895002	DR-2	SM 4500-H+B	WET/33647		
60115895003	DR-3	SM 4500-H+B	WET/33647		
60115895004	DR-4	SM 4500-H+B	WET/33649		
60115895005	DR-5	SM 4500-H+B	WET/33649		
60115895006	DR-6	SM 4500-H+B	WET/33649		
60115895007	DR-7	SM 4500-H+B	WET/33649		
60115895008	DR-8	SM 4500-H+B	WET/33649		
60115895009	DR-4-SW	SM 4500-H+B	WET/33649		
60115895010	DR-G	SM 4500-H+B	WET/33649		
60115895011	FB	SM 4500-H+B	WET/33649		
60115895012	GW-3	SM 4500-H+B	WET/33649		
60115895013	GW-5	SM 4500-H+B	WET/33649		
60115895014	GW-7	SM 4500-H+B	WET/33649		
60115895015	EB-1	SM 4500-H+B	WET/33649		
60115895016	EB-2	SM 4500-H+B	WET/33649		
60115895017	MW-1 SHALLOW	SM 4500-H+B	WET/33649		
60115895018	MW-1 DEEP	SM 4500-H+B	WET/33649		
60115895019	MW-2 DEEP	SM 4500-H+B	WET/33649		
60115895020	MW-3 DEEP	SM 4500-H+B	WET/33649		
60115895021	MW-4 SHALLOW	SM 4500-H+B	WET/33649		
60115895022	MW-4 DEEP	SM 4500-H+B	WET/33649		
60115895023	MW-5 SHALLOW	SM 4500-H+B	WET/33649		
60115895024	MW-5 DEEP	SM 4500-H+B	WET/33650		
60115895025	MW-6 SHALLOW	SM 4500-H+B	WET/33650		
60115895026	MW-6 DEEP	SM 4500-H+B	WET/33650		
60115895001	DR-1	EPA 300.0	WETA/19392		
60115895002	DR-2	EPA 300.0	WETA/19392		
60115895003	DR-3	EPA 300.0	WETA/19392		
60115895004	DR-4	EPA 300.0	WETA/19392		
60115895005	DR-5	EPA 300.0	WETA/19392		
60115895006	DR-6	EPA 300.0	WETA/19392		
60115895007	DR-7	EPA 300.0	WETA/19392		
60115895008	DR-8	EPA 300.0	WETA/19392		
60115895009	DR-4-SW	EPA 300.0	WETA/19392		
60115895010	DR-G	EPA 300.0	WETA/19392		
60115895011	FB	EPA 300.0	WETA/19392		
60115895012	GW-3	EPA 300.0	WETA/19392		
60115895013	GW-5	EPA 300.0	WETA/19392		
60115895014	GW-7	EPA 300.0	WETA/19392		
60115895015	EB-1	EPA 300.0	WETA/19392		
60115895016	EB-2	EPA 300.0	WETA/19392		
60115895017	MW-1 SHALLOW	EPA 300.0	WETA/19392		
60115895018	MW-1 DEEP	EPA 300.0	WETA/19392		
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60115895020	MW-3 DEEP	EPA 300.0	WETA/19392		

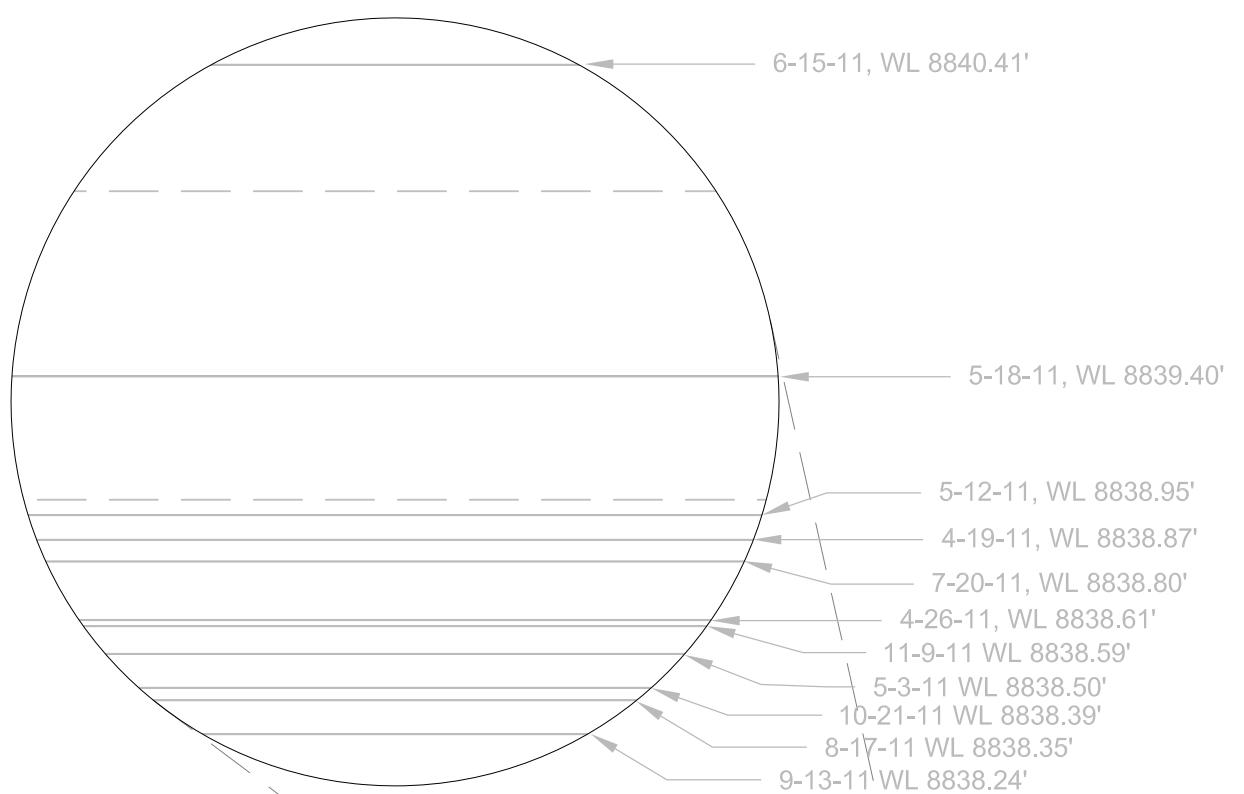
QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RICO FEBRUARY 2012 WATER SAMP
Pace Project No.: 60115895

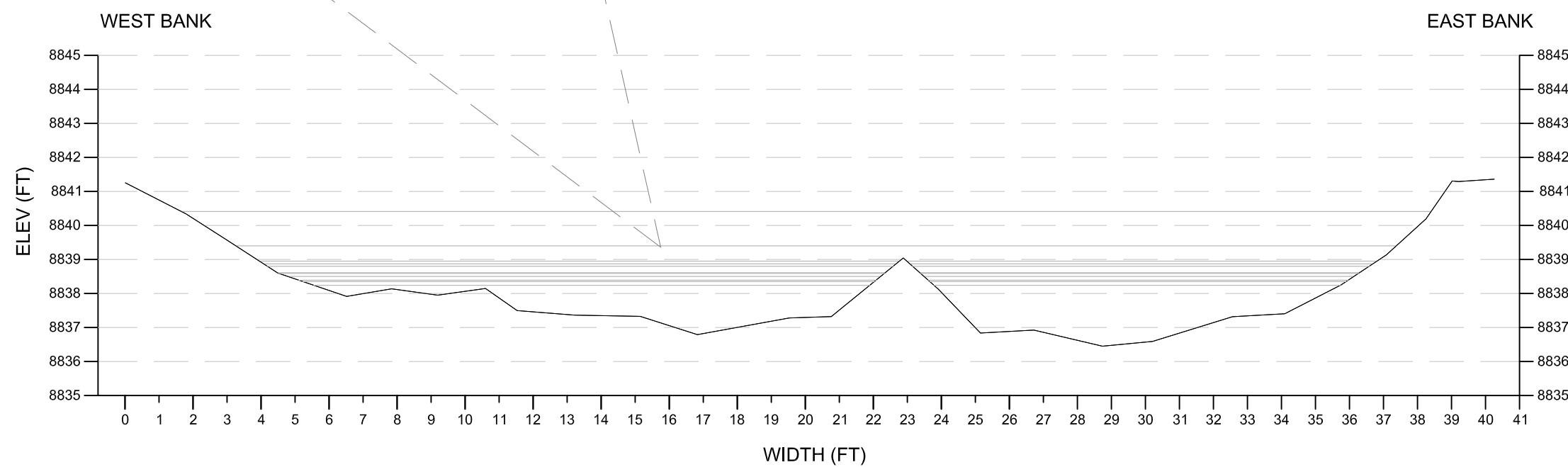
Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60115895021	MW-4 SHALLOW	EPA 300.0	WETA/19394		
60115895022	MW-4 DEEP	EPA 300.0	WETA/19394		
60115895023	MW-5 SHALLOW	EPA 300.0	WETA/19394		
60115895024	MW-5 DEEP	EPA 300.0	WETA/19394		
60115895025	MW-6 SHALLOW	EPA 300.0	WETA/19394		
60115895026	MW-6 DEEP	EPA 300.0	WETA/19394		
60115895001	DR-1	SM 4500-CN-E	WETA/19347		
60115895002	DR-2	SM 4500-CN-E	WETA/19347		
60115895003	DR-3	SM 4500-CN-E	WETA/19347		
60115895004	DR-4	SM 4500-CN-E	WETA/19347		
60115895005	DR-5	SM 4500-CN-E	WETA/19347		
60115895006	DR-6	SM 4500-CN-E	WETA/19347		
60115895007	DR-7	SM 4500-CN-E	WETA/19347		
60115895008	DR-8	SM 4500-CN-E	WETA/19347		
60115895009	DR-4-SW	SM 4500-CN-E	WETA/19347		
60115895010	DR-G	SM 4500-CN-E	WETA/19347		
60115895011	FB	SM 4500-CN-E	WETA/19347		
60115895012	GW-3	SM 4500-CN-E	WETA/19347		
60115895013	GW-5	SM 4500-CN-E	WETA/19347		
60115895014	GW-7	SM 4500-CN-E	WETA/19347		
60115895015	EB-1	SM 4500-CN-E	WETA/19347		
60115895016	EB-2	SM 4500-CN-E	WETA/19347		
60115895017	MW-1 SHALLOW	SM 4500-CN-E	WETA/19347		
60115895018	MW-1 DEEP	SM 4500-CN-E	WETA/19389		
60115895019	MW-2 DEEP	SM 4500-CN-E	WETA/19389		
60115895020	MW-3 DEEP	SM 4500-CN-E	WETA/19389		
60115895021	MW-4 SHALLOW	SM 4500-CN-E	WETA/19389		
60115895022	MW-4 DEEP	SM 4500-CN-E	WETA/19389		
60115895023	MW-5 SHALLOW	SM 4500-CN-E	WETA/19389		
60115895024	MW-5 DEEP	SM 4500-CN-E	WETA/19389		
60115895025	MW-6 SHALLOW	SM 4500-CN-E	WETA/19389		
60115895026	MW-6 DEEP	SM 4500-CN-E	WETA/19389		

Appendix E

Flow Cross Sections



DR-1 CROSS SECTION



CROSS SECTION AT DR-1
SCALE - 1" = 4'

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General Notes		
NOTE: COULD NOT OBTAIN FLOW DUE TO LARGE ICE SHELF OVER RIVER		
No.	Revision/Issue	Date

ATLANTIC RICHFIELD COMPANY

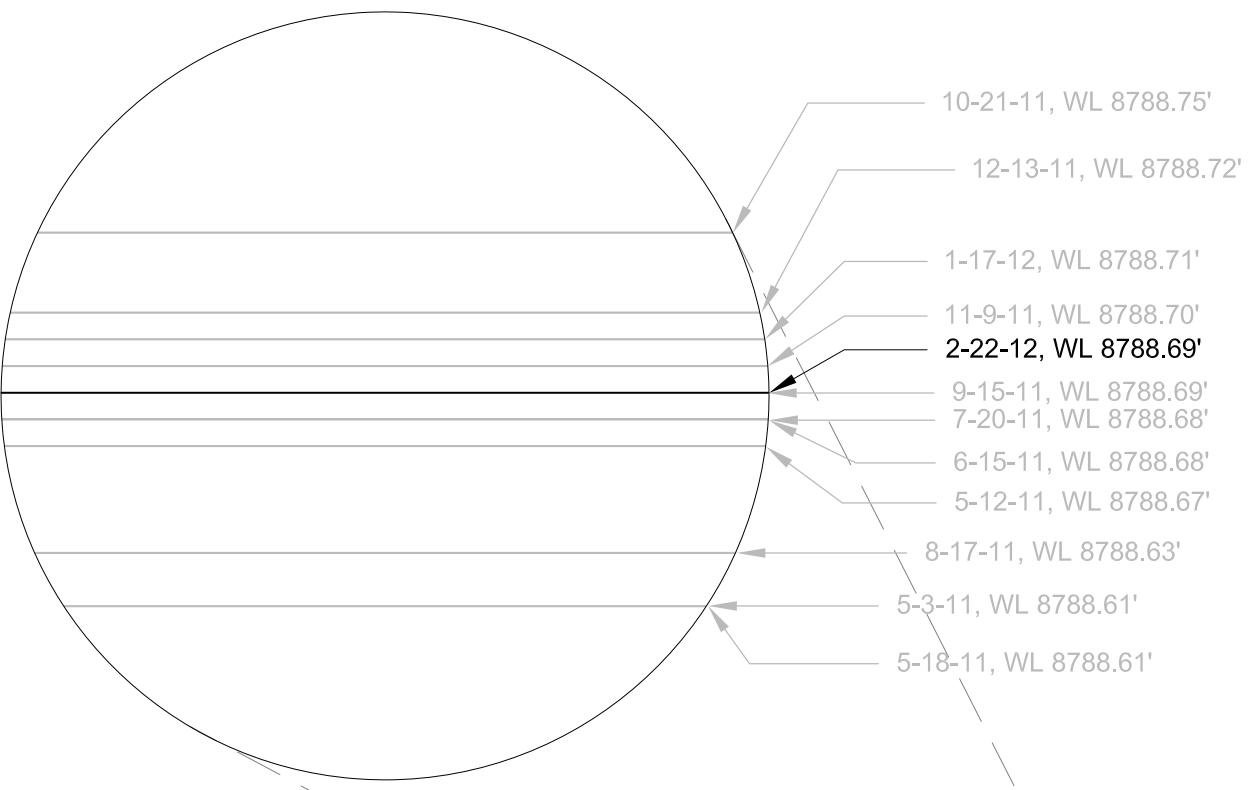


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ENGINEER: CS, MAD
APPROVED:

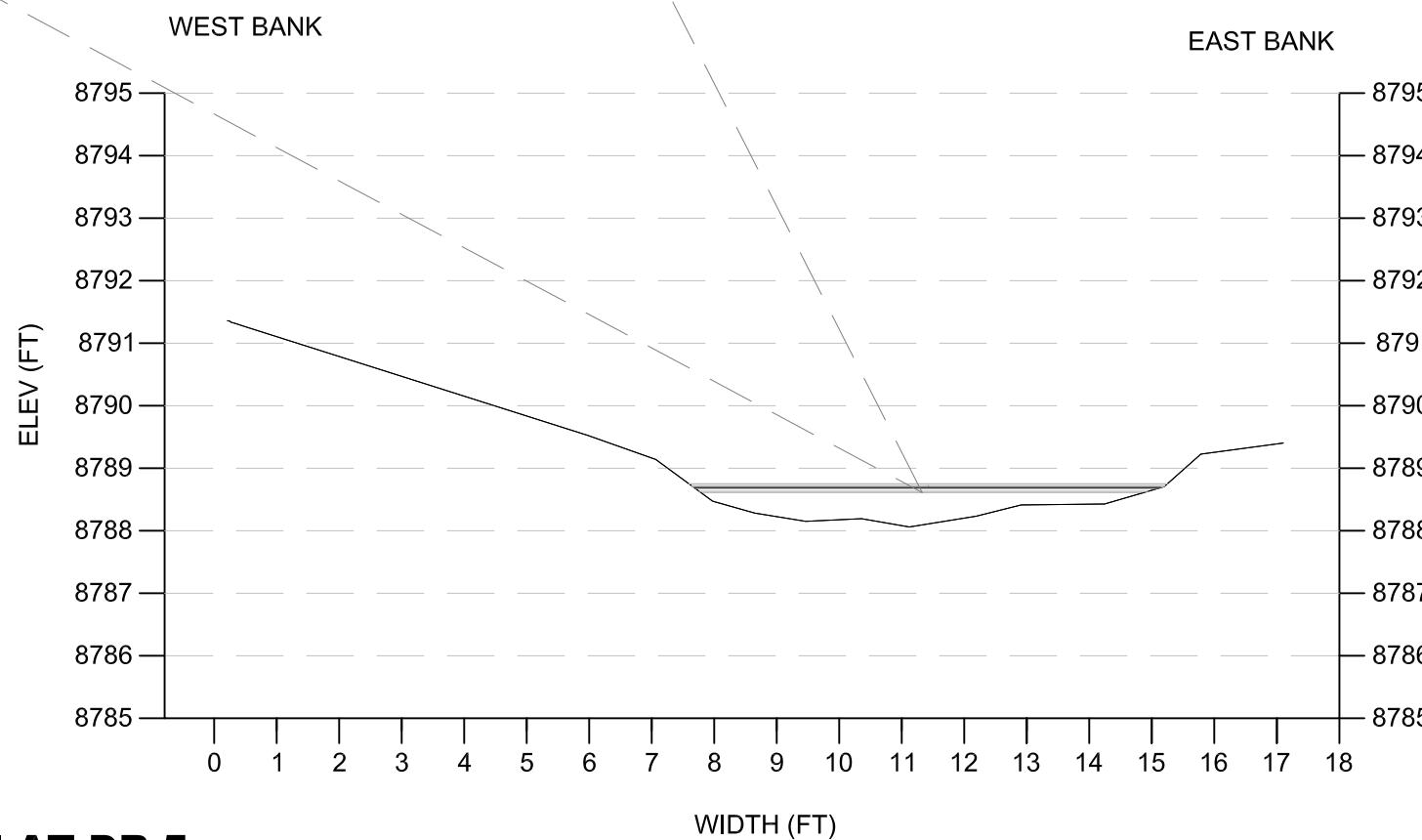
RICO SURFACE WATER SAMPLING
DOLORES RIVER CROSS SECTION AT SAMPLING STATION DR-1
RICO, CO

Project	Figure
Date	22-FEB-2012
Scale	

3



DR-5 CROSS SECTION



4 **CROSS SECTION AT DR-5**
SCALE - 1" = 3'

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General Notes		
Scale in Feet		
0 1.5 3		
No.	Revision/Issue	Date

ATLANTIC RICHFIELD
COMPANY



ANDERSON
ENGINEERING COMPANY, INC.

DRAWN BY: MAD
ENGINEER: CS, MAD
APPROVED:

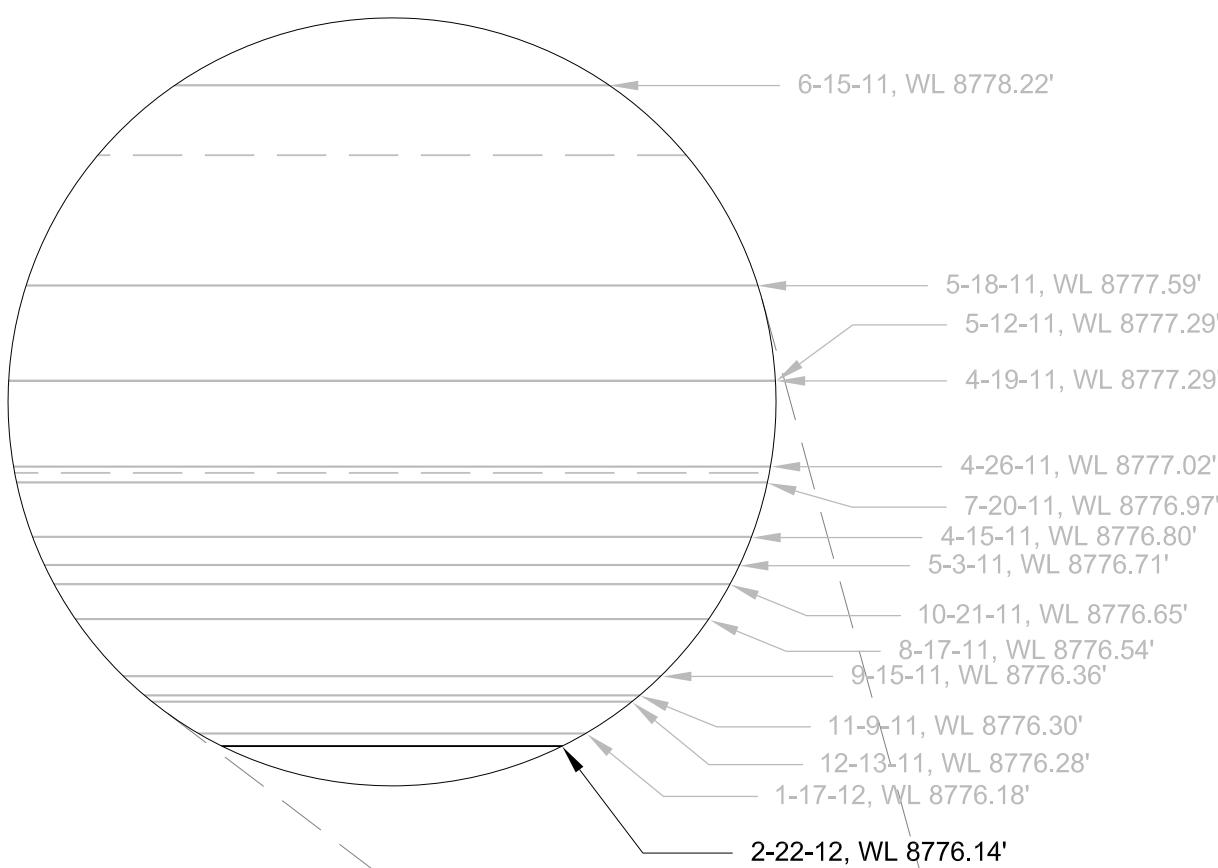
**RICO SURFACE
WATER SAMPLING**

**POND 8 EMBANKMENT
CROSS SECTION AT
SAMPLING STATION DR-5**

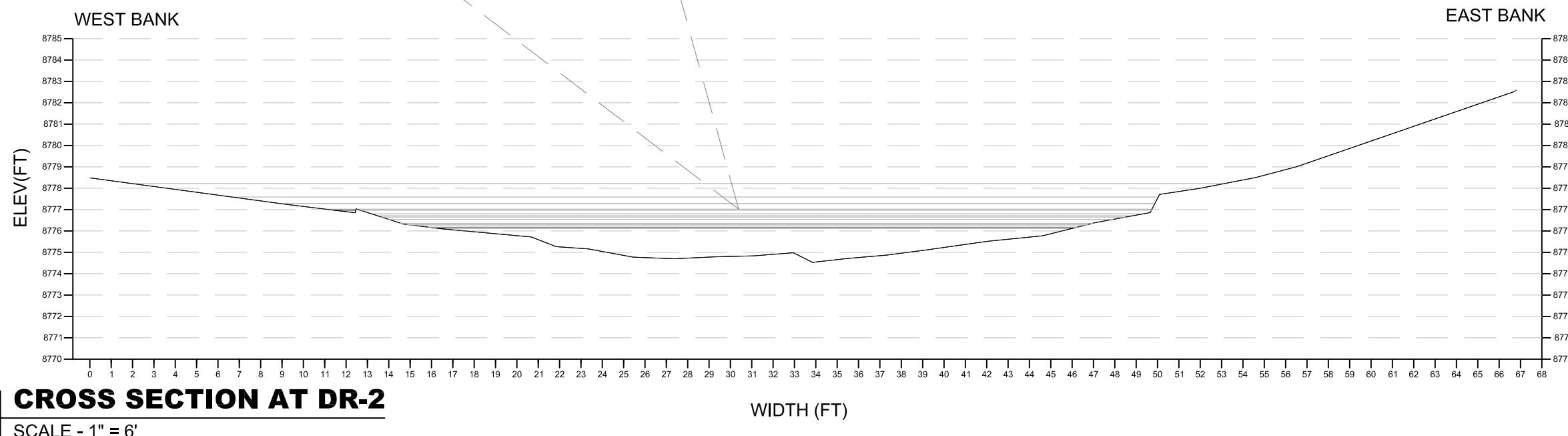
RICO, CO

Project	Figure
Date 22-FEB-2012	Scale

4



DR-2 CROSS SECTION



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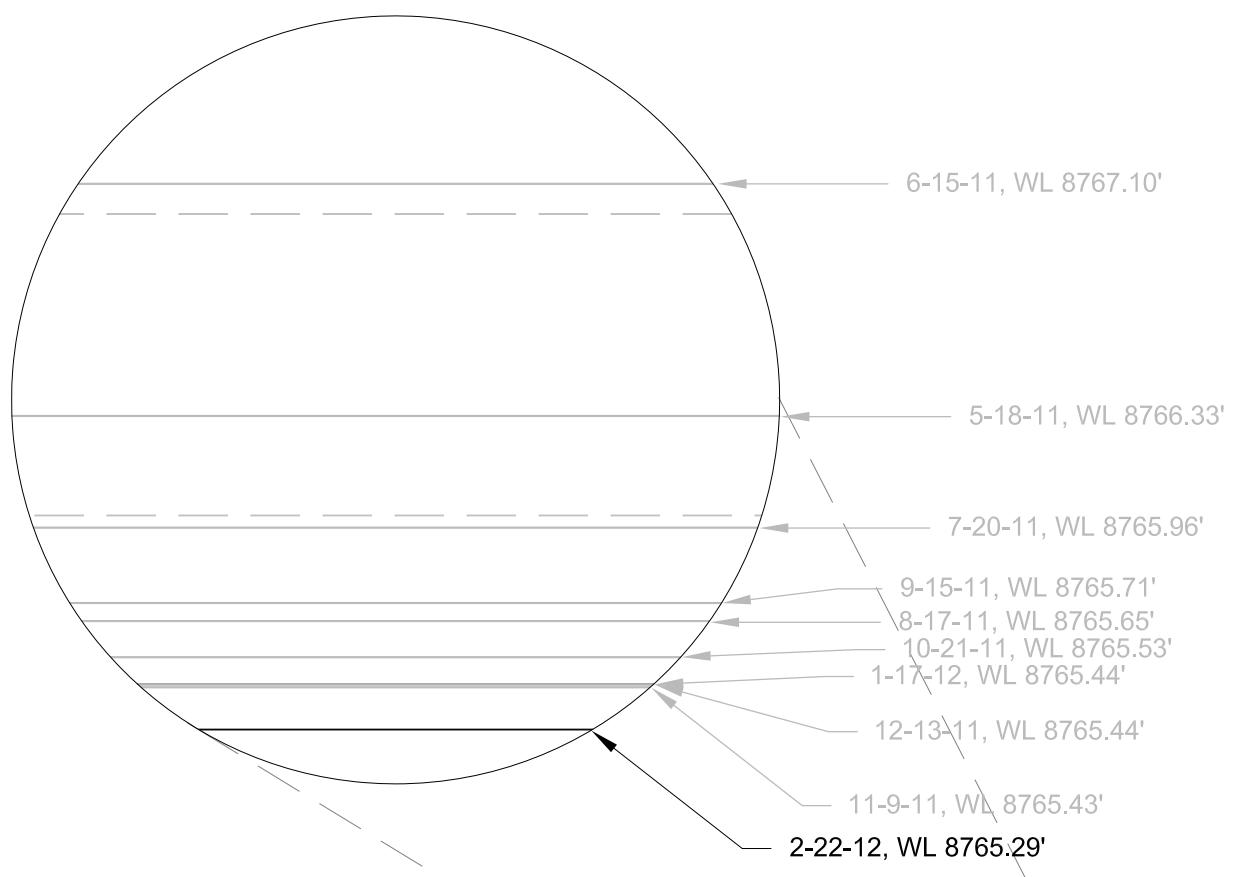
General Notes		
Scale in Feet 		
No.	Revision/Issue	Date
ATLANTIC RICHFIELD COMPANY		



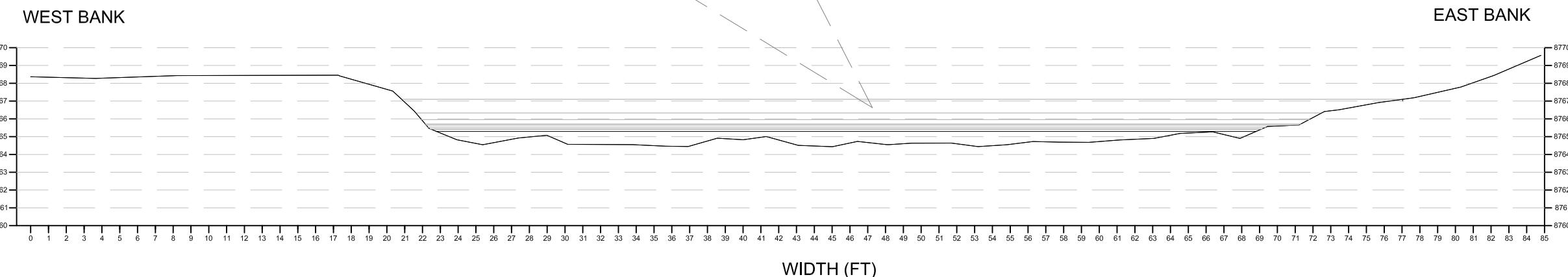
DRAWN BY: MAD
 ENGINEER: CS, MAD
 APPROVED:

RICO SURFACE WATER SAMPLING
DOLORES RIVER CROSS SECTION AT SAMPLING STATION DR-2
 RICO, CO

Project: **DR-2** Figure: **5**
 Date: **22-FEB-2012**
 Scale:



DR-7 CROSS SECTION



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General Notes		
Scale in Feet		
0 3.5 7		
No.	Revision/Issue	Date

ATLANTIC RICHFIELD
COMPANY



ANDERSON
ENGINEERING COMPANY, INC.

DRAWN BY: MAD
ENGINEER: CS, MAD
APPROVED:

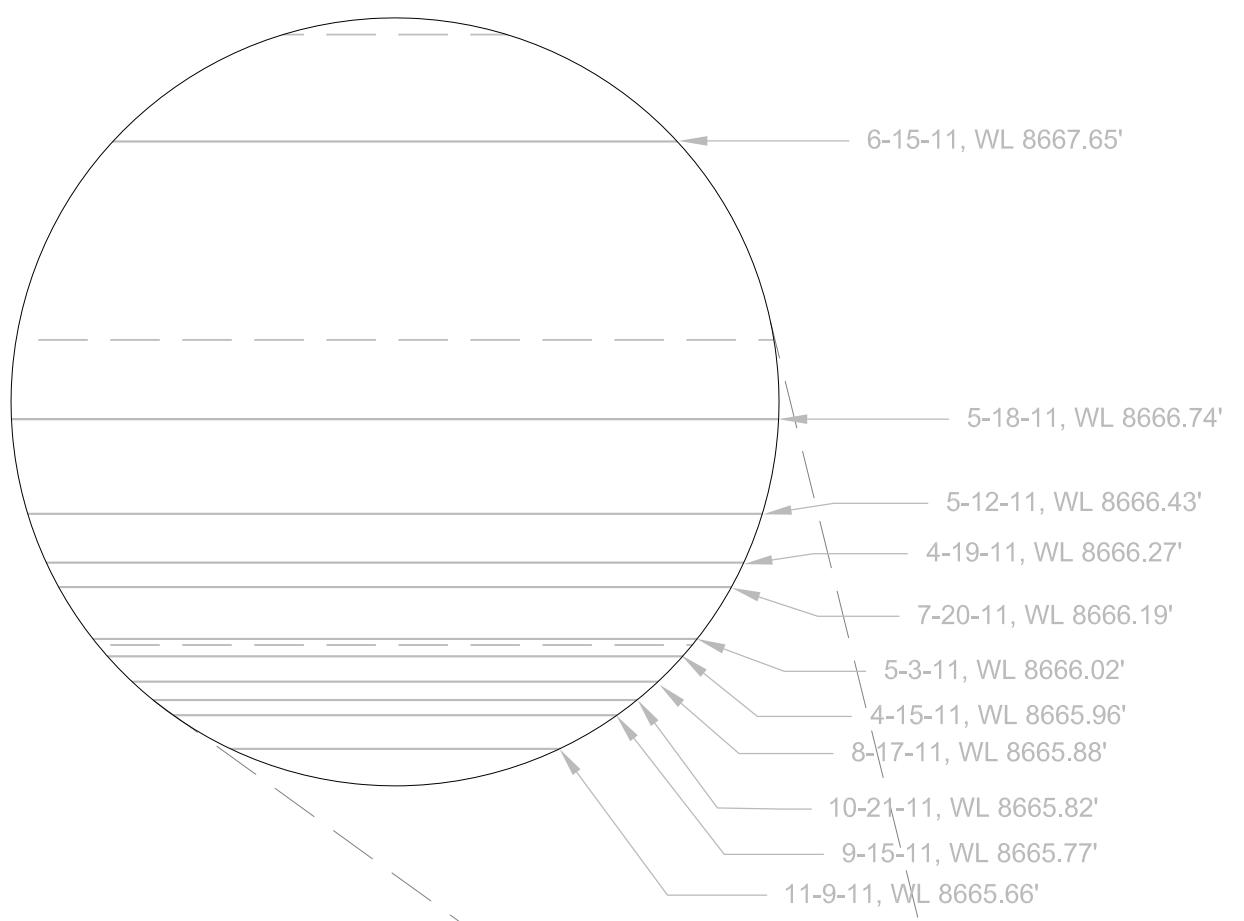
**RICO SURFACE
WATER SAMPLING**

**DOLORES RIVER CROSS
SECTION AT SAMPLING
STATION DR-7**

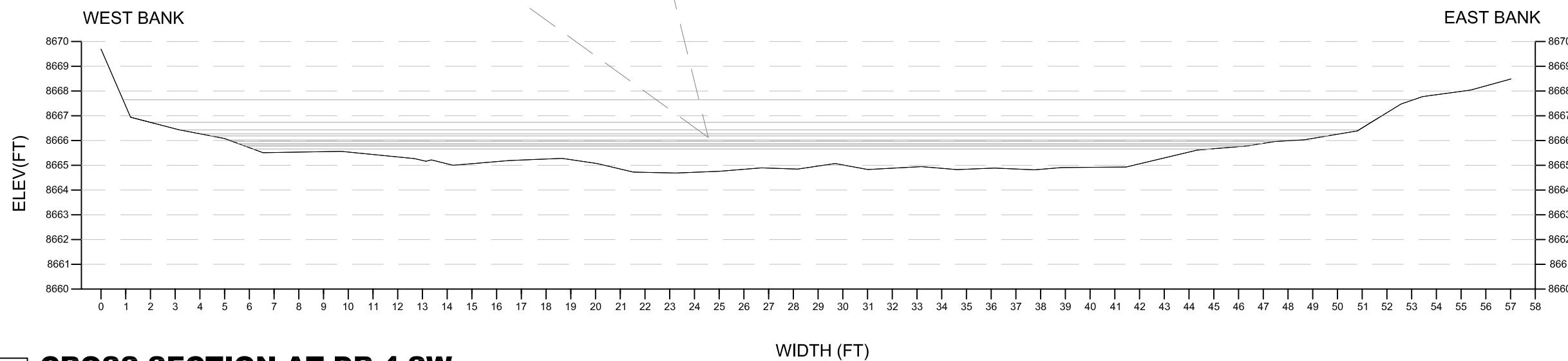
RICO, CO

Project	Figure
Date	22-FEB-2012
Scale	

6



DR-4-SW CROSS SECTION



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General Notes		
NOTE: COULD NOT OBTAIN FLOW DUE TO LARGE ICE SHELF OVER RIVER		
No.	Revision/Issue	Date

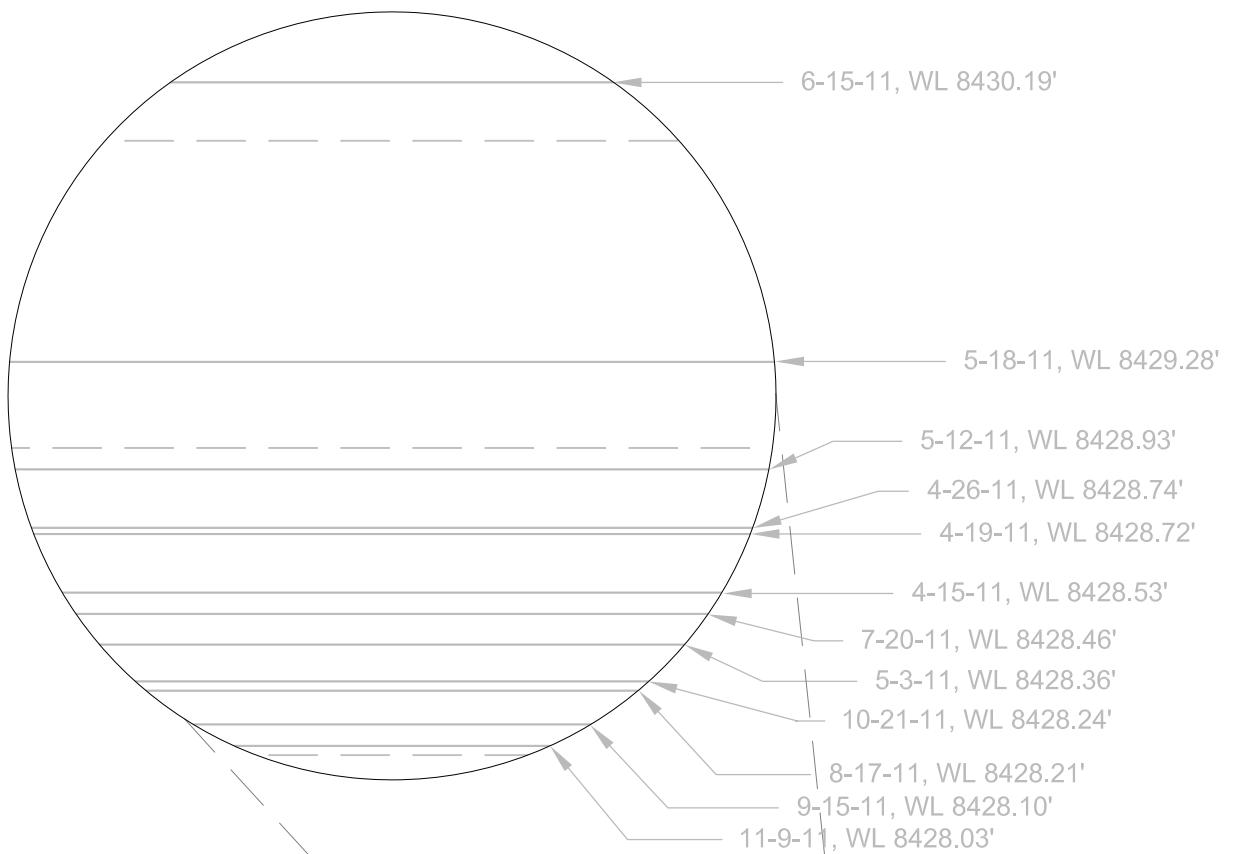


DRAWN BY: MAD
ENGINEER: CS, MAD
APPROVED:

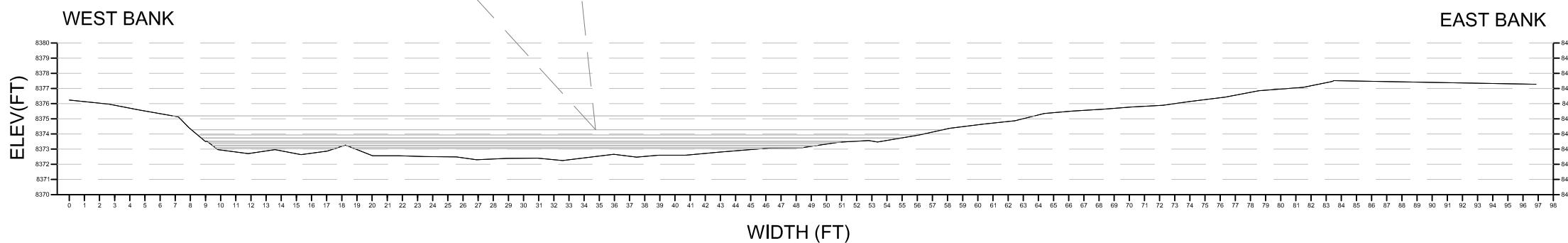
RICO SURFACE WATER SAMPLING
DOLORES RIVER CROSS SECTION AT SAMPLING STATION DR-4-SW
RICO, CO

Project	Figure
Date	22-FEB-2012
Scale	

7



DR-G CROSS SECTION



CROSS SECTION AT DR-G
SCALE - 1" = 9'

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General Notes		
NOTE: COULD NOT OBTAIN FLOW DUE TO LARGE ICE SHELF OVER RIVER		
Scale in Feet		
0	4.5	9
No.	Revision/Issue	Date

ATLANTIC RICHFIELD COMPANY



ANDERSON
ENGINEERING COMPANY, INC.

DRAWN BY: MAD
ENGINEER: CS, MAD
APPROVED:

RICO SURFACE WATER SAMPLING

DOLORES RIVER CROSS SECTION AT SAMPLING STATION DR-G

RICO, CO

Project	Figure
Date	22-FEB-2012
Scale	

Appendix F
Chain of Custody Records

185084

Page 2 of 5

Chain of Custody Record

Project Name: Rico February 2012 Water Sampling

BP BU/AR Region/Envos Segment:

State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy):

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name: <u>Pace Analytical Services</u>	BP/AR Facility No.:	Consultant/Contractor:
Address: <u>9608 Loinet Blvd.</u>	BP/AR Facility Address:	Address:
<u>Lenexa, KS 66219</u>	Site Lat/Long:	
Lab PM: <u>Heather Wilson</u>	California Global ID No.:	Consultant/Contractor Project No.:
Tele/Fax: <u>(913) 563-1407</u>	Envos Project No.:	Consultant/Contractor PM:
BP/AR EBM:	Provision or OOC (circle one)	Tele/Fax:
Address:	Phase/WBS:	Report Type & QC Level:
Tele/Fax:	Sub Phase/Task:	E-mail EDD To:
	Cost Element:	Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)

Item No.	Sample Description	Time	Date	Matrix	Laboratory No.	No. of Containers	Preservative					Requested Analysis					Sample Point Lat/Long and Comments				
							Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	NaOH	Total Metals	Dissolved Metals	Cyanide	Alkalinity/TDS	Sulfate	Salinity	pH		
1	DR-7			X		5	X		X			X	X	X	X	X					(BPAW) (BPAW) (BPAW) ¹⁰ (BPAW) ¹⁰ (BPAW) ¹⁰
2	DR-8			X		5	X		X			X	X	X	X	X	X				208
3	DR-4-SW			X		5	X		Y			X	X	X	X	X	X				009
4	DL-G			X		5	X		Y			X	X	X	X	X	X				010
5	FB			X		5	X		X			X	X	X	X	X	X				011
6																					
7																					
8																					
9																					
10																					

Sampler's Name: <u>Mark DeFriez</u>	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: <u>Anderson Engineering Co., Inc.</u>		2/23/12	2:30	<u>Mark DeFriez</u>	2/24/12	9:10
Shipment Date:						
Shipment Method:						
Shipment Tracking No.:						

Special Instructions:

Page 14 of 128

Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: 0.6°F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

Laboratory Copy



bp
A BP affiliated company

185084

Page 3 of 5

Chain of Custody Record

Project Name: Rico February 2012 Water Sampling

BP BU/AR Region/Enfos Segment:

State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy):

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name: Pace Analytical Services	BP/AR Facility No.:	Consultant/Contractor:
Address: 9608 Loinet Blvd. Lenexa, KS 66219	BP/AR Facility Address:	Address:
Lab PM: Heather Wilson	Site Lat/Long:	Consultant/Contractor Project No.:
Tele/Fax: (913) 563-1407	California Global ID No.:	Consultant/Contractor PM:
BP/AR EBM:	Enfos Project No.:	Tele/Fax:
Address:	Provision or OOC (circle one)	Report Type & QC Level:
Tele/Fax:	Phase/WBS:	E-mail EDD To:
Lab Bottle Order No:	Sub Phase/Task:	Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)
	Cost Element:	

Item No.	Sample Description	Time	Date	Matrix	Laboratory No.	No. of Containers	Preservative				Requested Analysis				Sample Point Lat/Long and Comments <i>GO 115 895</i>				
							Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	NaOH	Total Metals	Dissolved Metals	Cyanide	Alkalinity/TDS	Salinity	pH	
1	GW-3			X		5	X	X	X		X	X	X	X	X	X			(BRW) 1(GR3) (BZN) (GRD) (GRZ) 012
2	GW-5			X		5	X	X	X		X	X	X	X	X				013
3	GW-7			X		5	X	X	X		X	X	X	X	X				014
4	EB-1			X		5	X	X	X		X	X	X	X	X				015
5	EB-2			X		5	X	X	X		X	X	X	X	X				016
6																			
7																			
8																			
9																			
10																			

Sampler's Name: Mark DeFriez	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: Anderson Engineering Co., Inc.	<i>Zach D. DeFriez / AECI</i>	2/23/12	2:30p	<i>Mark DeFriez</i>	2/24/12	9:10
Shipment Date:						
Shipment Method:						
Shipment Tracking No:						

Special Instructions:					
Custody Seals In Place: Yes / No	Temp Blank: Yes / No	Cooler Temp on Receipt: 13 °F (C)	Trip Blank: Yes / No	MS/MSD Sample Submitted: Yes / No	



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185084

Page 4 of 5

Chain of Custody Record

Project Name: Rico February 2012 Water Sampling

BP BU/AR Region/Envos Segment:

State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy):

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name: Pace Analytical Services		BP/AR Facility No.:	Consultant/Contractor:
Address: 9608 Loinet Blvd. Lenexa, KS 66219		BP/AR Facility Address:	Address:
Lab PM: Heather Wilson Tele/Fax: (913) 563-1407		Site Lat/Long:	Consultant/Contractor Project No.:
BP/AR EBM:		California Global ID No.:	Consultant/Contractor PM:
Address:		Envos Project No.:	Phone No.:
Tele/Fax:		Provision or OOC (circle one)	Report Type & QC Level:
Lab Bottle Order No.:		Phase/WBS:	E-mail EDD To:
		Sub Phase/Task:	Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)
		Cost Element:	

Item No.	Sample Description	Time	Date	Matrix	Laboratory No.	No. of Containers	Preservative					Requested Analysis					Sample Point Lat/Long and Comments			
							Soil/Solid	Water/Liquid	Air	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	NaOH	Total Metals / Dissolved Metals	Cyanide	Alkalinity / TSS / Suspended Solids	Salinity	pH
1	MW-1 SHALLOW					5	X			X		X		X	X	X	X			(BPM) (B3N) (B3N) (B3N) (B3N) 017
2	MW-1 DEEP					5	X			X		X		X	X	X	X	X		↓ 018
3	MW-2 SHALLOW																			
4	MW-2 DEEP					5	X			X		X		X	X	X	X	X	(BPM) (B3N) (B3N) (B3N) (B3N) 019	
5	MW-3 DEEP					5	X			X		X		X	X	X	X	X	↓ 020	
6																				
7																				
8																				
9																				
10																				

Sampler's Name: Mark DeFriez		Relinquished By / Affiliation		Date	Time	Accepted By / Affiliation		Date	Time
Sampler's Company: Anderson Engineering Co., Inc.		2/23/12	TAECI	2/23/12	2:30	Jay S. Pace		2/24/12	9:00
Shipment Date:									
Shipment Method:									
Shipment Tracking No.:									

Special Instructions:

Custody Seals In Place: Yes No Temp Blank: Yes No Cooler Temp on Receipt: 0.8 °F/C Trip Blank: Yes No MS/MSD Sample Submitted: Yes



185084

Chain of Custody Record

Project Name: Rico February 2012 Water Sampling
BP BU/AR Region/Envos Segment: _____
State or Lead Regulatory Agency: _____

Page 5 of 5

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name: Pace Analytical Services Address: 9608 Loinet Blvd. Lenexa, KS 66219 Lab PM: Heather Wilson Tele/Fax: (913) 563-1407 BP/AR EBM: Address: Tele/Fax:				BP/AR Facility No.: BP/AR Facility Address: Site Lat/Long: California Global ID No.: Envos Project No.: Provision or OOC (circle one) Phase/WBS: Sub Phase/Task: Cost Element:				Consultant/Contractor: Address: Consultant/Contractor Project No.: Consultant/Contractor PM: Tele/Fax: Report Type & QC Level: E-mail EDD To: Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)																
Lab Bottle Order No:				Matrix				Sample Point Lat/Long and Comments <i>60115895</i>																
Item No.	Sample Description	Time	Date	Soil/Solid	Water/Liquid	Air	Laboratory No.	No. of Containers	Preservative				Requested Analysis											
									Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	NaOH	Total Metals/ Hardness	Dissolved Metals	Cyanide	Alkalinity/TBSE TSS/Soil/Fate	Saltinity	pH				
1	MW-4 SHALLOW			X				5	X	X			X	X	X	X	X						<i>(871)(891)(831)(831)(1631)(1631)(1631)</i>	
2	MW-4 DEEP				X			5	X	X			X	X	X	X	X							<i>02</i>
3	MW-5 SHALLOW				X			5	X	X			X	X	X	X	X							<i>02</i>
4	MW-5 DEEP				X			5	X	X			X	X	X	X	X							<i>02</i>
5	MW-6 SHALLOW				X			5	X	X			X	X	X	X	X							<i>02</i>
6	MW-6 DEEP				X			5	X	X			X	X	X	X	X							<i>02</i>
7																								
8																								
9																								
10																								
Sampler's Name: Mark DeFriez Sampler's Company: Anderson Engineering Co., Inc.								Relinquished By / Affiliation				Date	Time	Accepted By / Affiliation				Date	Time					
								<i>2011-07-21 IAECI</i>				2/23/12	2:30	<i>July 21, 2012</i>				2/24/12	9:10					
Shipment Date:																								
Shipment Method:																								
Shipment Tracking No:																								
Special Instructions:																								
Custody Seals In Place: Yes / No				Temp Blank: Yes / No				Cooler Temp on Receipt: 14°F/C				Trip Blank: Yes / No				MS/MSD Sample Submitted: Yes / No								

of 128

Custody Seals In Place: Yes / No

Temp Blank: Yes / No

Cooler Temp on Receipt: 45°F/C

Trip Blank: Yes /No

MS/MSD Sample Submitted: Yes / No

Client Name: BP Anderson

 Project #: 60115895

 Courier: Fed Ex UPS USPS Client Commercial Pace Other

 Tracking #: 8987 6459 8714

 Pace Shipping Label Used? Yes No

Optional

 Proj Due Date: 3/7/12

Proj Name:

 Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

 Packing Material: Bubble Wrap Bubble Bags Foam None Other

 Thermometer Used: T-194

 Type of Ice: ice Blue None Samples received on ice, cooling process has begun.

 Cooler Temperature: 1.7, 0.8, 0.6, 1.3, -1.1

(circle one)

 Date and initials of person examining
contents: DM 2/24/12
1045

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. pH
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace containers used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Includes date/time/ID/analyses Matrix:	<u>water</u>	13. no collection times/dates.
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed <u>JNS</u> Lot # of added preservative
Trip Blank present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank lot # (if purchased): <u>mf</u>		15.
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	17. List State: <u>NY</u>

Client Notification/ Resolution:

 Copy COC to Client? Y N

 Field Data Required? Y N

Person Contacted:

Date/Time:

 Comments/ Resolution: Emailed mark DeFriez about Collection
Dates & Times: Amw 2/24/12 Mark emailed collection
dates & times Amw 2/27/12

 Project Manager Review: Amw

 Date: 2/27/12

Temp Log: Record start and finish times when unpacking cooler, if >20 min, recheck sample temps.

 Start: 1020 Start:

 End: 1035 End:

 Temp: Temp: Temp:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the NCDENR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Appendix G

Field Photos

February 2012 Field Photos



Cross Section at Station DR-1



Cross Section at Station DR-5



Cross Section at Station DR-2



Cross Section at Station DR-7

February 2012 Field Photos



Cross Section at Station DR-4-SW



Cross Section at Station DR-G

Appendix H
Field Log Book Records

2/21/12
MW-1 SHALLOW
Depth 6.34'
Collected 12:25 pm
pH T 44.7°F
EC 1,109 DO

MW-1 DEEP
Depth 8.13'
Collected
pH 7.14 T 41.9°F
EC 1174 μS DO

MW-2 SHALLOW
Depth
Collected
pH T 9 DO
EC

MW-2 DEEP
Depth 10.22'
Collected 12:10pm
pH 7.81 T 55.0°F
EC 1089 μS DO 11.23

2/21/12
MW-3 SHALLOW
Depth
Collected
pH T 21 T
EC DO

MW-3 DEEP
Depth 10.35'
Collected 3:05 pm
pH T 50.1°F
EC 1089 μS DO

MW-4 SHALLOW
Depth 17.05'
Collected
pH 7.30 T 46.0°F
EC 1420 DO

MW-4 DEEP
Depth 16.96'
Collected
pH 6.64 T 48.0
EC 1438 DO

2/21/12

MW-5 SHALLOW

Depth 16.90'

Collected 2:40pm

pH 4.74 T 48.3°F

EC 2.73mS DO

MW-5 DEEP

Depth 17.61'

Collected 2:45pm

pH 7.75 T 50.0°F

EC 2.13mS DO

MW-6 SHALLOW

Depth 23.49'

Collected 2:25pm

pH T 49.2°F

EC 2.06mS DO

2/22/12

DR~1

BM GL

WL GL

Velocities: Could not
obtain due to large
ice shelf

pH CNO ^{see lat report} T 36.2°F

EC 298 μS DO CNO

photo #

Collected:

3pm - 35°F 4mph

MW-6 DEEP

Depth 23.41'

Collected 2:30pm

pH T 49.4°F

EC 1253 μS DO

2/22/12

DR-2

BM EL 5.15'
WL EL 160'

Velocities:

Elevation method:

times: 7.10, 7.73, 6.98

pH CNO T 42.9 °F
EC 346 μS DO CNO

photo #1

Collected

2/22/12

DR-3 / DR-8

pH CNO see lab report T 59.3 °F
EC 1220 μS DO CNO

Heterite flow by installed flow devices

FB

pH 8.37 T 40.4 °F
EC 0.0 DO CNO

2/22/12

DR-4

pH CNO T 52.5°F
EC 1126µS DO CNO

2/22/12

DR-6

pH CNO DO CNO
T 46.3°F EC 1188µS

DR-5

BM EL 7.125'
WL EL 9.80'

Velocities:

pH CNO T 43.2°F
EC 1175µS DO CNO

photo #

Collected

DR-7

BM EL 8.53'
WL EL 12.81'

Velocities: Flotation Method

Times: 5.3, 4.9, 5.2 (sec)

pH CNO T 44.2°F
EC 559µS DO CNO

photo #

Collected:

DR 2/22/17

DR-4-SW

BM EL

WL EL Could not obtain due
Velocities to excessive ice
in river

pH CNO T 49.2°F

EC 493 μS θo CNO

photo #

Collected

2/22/17

DR-G

BM EL

WL EL Could not obtain due
Velocities to do shelf in
river

pH CNO T 42.0°F

EC 478 μS θo CNO

photo #

Collected:

Appendix I

North Flume OTT PLS Data with Flowrates

		Depth Reading	
Date, Time	(ft)	Flowrate (cfs)	Flowrate (gpm)
2/1/2012 0:00	0.65	1.60	718.1
2/1/2012 1:00	0.65	1.60	718.1
2/1/2012 2:00	0.65	1.60	718.1
2/1/2012 3:00	0.65	1.60	718.1
2/1/2012 4:00	0.65	1.60	718.1
2/1/2012 5:00	0.65	1.60	718.1
2/1/2012 6:00	0.65	1.60	718.1
2/1/2012 7:00	0.65	1.60	718.1
2/1/2012 8:00	0.65	1.60	718.1
2/1/2012 9:00	0.65	1.60	718.1
2/1/2012 10:00	0.65	1.60	718.1
2/1/2012 11:00	0.65	1.60	718.1
2/1/2012 12:00	0.65	1.60	718.1
2/1/2012 13:00	0.65	1.60	718.1
2/1/2012 14:00	0.65	1.60	718.1
2/1/2012 15:00	0.65	1.60	718.1
2/1/2012 16:00	0.65	1.60	718.1
2/1/2012 17:00	0.65	1.60	718.1
2/1/2012 18:00	0.65	1.60	718.1
2/1/2012 19:00	0.65	1.60	718.1
2/1/2012 20:00	0.65	1.60	718.1
2/1/2012 21:00	0.65	1.60	718.1
2/1/2012 22:00	0.65	1.60	718.1
2/1/2012 23:00	0.65	1.60	718.1
2/2/2012 0:00	0.65	1.60	718.1
2/2/2012 1:00	0.65	1.60	718.1
2/2/2012 2:00	0.65	1.60	718.1
2/2/2012 3:00	0.65	1.60	718.1
2/2/2012 4:00	0.65	1.60	718.1
2/2/2012 5:00	0.65	1.60	718.1
2/2/2012 6:00	0.65	1.60	718.1
2/2/2012 7:00	0.65	1.60	718.1
2/2/2012 8:00	0.65	1.60	718.1
2/2/2012 9:00	0.65	1.60	718.1
2/2/2012 10:00	0.65	1.60	718.1
2/2/2012 11:00	0.65	1.60	718.1
2/2/2012 12:00	0.65	1.60	718.1
2/2/2012 13:00	0.65	1.60	718.1
2/2/2012 14:00	0.65	1.60	718.1
2/2/2012 15:00	0.65	1.60	718.1
2/2/2012 16:00	0.65	1.60	718.1
2/2/2012 17:00	0.65	1.60	718.1
2/2/2012 18:00	0.65	1.60	718.1
2/2/2012 19:00	0.65	1.60	718.1

2/2/2012 20:00	0.65	1.60	718.1
2/2/2012 21:00	0.65	1.60	718.1
2/2/2012 22:00	0.65	1.60	718.1
2/2/2012 23:00	0.65	1.60	718.1
2/3/2012 0:00	0.65	1.60	718.1
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2/18/2012 9:00	0.65	1.60	718.1
2/18/2012 10:00	0.65	1.60	718.1
2/18/2012 11:00	0.65	1.60	718.1

2/18/2012 12:00	0.65	1.60	718.1
2/18/2012 13:00	0.64	1.56	701.5
2/18/2012 14:00	0.65	1.60	718.1
2/18/2012 15:00	0.65	1.60	718.1
2/18/2012 16:00	0.64	1.56	701.5
2/18/2012 17:00	0.65	1.60	718.1
2/18/2012 18:00	0.65	1.60	718.1
2/18/2012 19:00	0.65	1.60	718.1
2/18/2012 20:00	0.65	1.60	718.1
2/18/2012 21:00	0.65	1.60	718.1
2/18/2012 22:00	0.64	1.56	701.5
2/18/2012 23:00	0.65	1.60	718.1
2/19/2012 0:00	0.64	1.56	701.5
2/19/2012 1:00	0.65	1.60	718.1
2/19/2012 2:00	0.65	1.60	718.1
2/19/2012 3:00	0.65	1.60	718.1
2/19/2012 4:00	0.65	1.60	718.1
2/19/2012 5:00	0.65	1.60	718.1
2/19/2012 6:00	0.64	1.56	701.5
2/19/2012 7:00	0.64	1.56	701.5
2/19/2012 8:00	0.65	1.60	718.1
2/19/2012 9:00	0.65	1.60	718.1
2/19/2012 10:00	0.65	1.60	718.1
2/19/2012 11:00	0.65	1.60	718.1
2/19/2012 12:00	0.65	1.60	718.1
2/19/2012 13:00	0.65	1.60	718.1
2/19/2012 14:00	0.65	1.60	718.1
2/19/2012 15:00	0.65	1.60	718.1
2/19/2012 16:00	0.65	1.60	718.1
2/19/2012 17:00	0.65	1.60	718.1
2/19/2012 18:00	0.65	1.60	718.1
2/19/2012 19:00	0.65	1.60	718.1
2/19/2012 20:00	0.65	1.60	718.1
2/19/2012 21:00	0.65	1.60	718.1
2/19/2012 22:00	0.65	1.60	718.1
2/19/2012 23:00	0.65	1.60	718.1
2/20/2012 0:00	0.65	1.60	718.1
2/20/2012 1:00	0.65	1.60	718.1
2/20/2012 2:00	0.65	1.60	718.1
2/20/2012 3:00	0.65	1.60	718.1
2/20/2012 4:00	0.65	1.60	718.1
2/20/2012 5:00	0.65	1.60	718.1
2/20/2012 6:00	0.64	1.56	701.5
2/20/2012 7:00	0.64	1.56	701.5
2/20/2012 8:00	0.65	1.60	718.1
2/20/2012 9:00	0.64	1.56	701.5
2/20/2012 10:00	0.65	1.60	718.1

2/20/2012 11:00	0.65	1.60	718.1
2/20/2012 12:00	0.65	1.60	718.1
2/20/2012 13:00	0.65	1.60	718.1
2/20/2012 14:00	0.65	1.60	718.1
2/20/2012 15:00	0.65	1.60	718.1
2/20/2012 16:00	0.65	1.60	718.1
2/20/2012 17:00	0.65	1.60	718.1
2/20/2012 18:00	0.65	1.60	718.1
2/20/2012 19:00	0.65	1.60	718.1
2/20/2012 20:00	0.65	1.60	718.1
2/20/2012 21:00	0.65	1.60	718.1
2/20/2012 22:00	0.65	1.60	718.1
2/20/2012 23:00	0.65	1.60	718.1
2/21/2012 0:00	0.65	1.60	718.1
2/21/2012 1:00	0.65	1.60	718.1
2/21/2012 2:00	0.65	1.60	718.1
2/21/2012 3:00	0.65	1.60	718.1
2/21/2012 4:00	0.65	1.60	718.1
2/21/2012 5:00	0.65	1.60	718.1
2/21/2012 6:00	0.65	1.60	718.1
2/21/2012 7:00	0.65	1.60	718.1
2/21/2012 8:00	0.65	1.60	718.1
2/21/2012 9:00	0.65	1.60	718.1
2/21/2012 10:00	0.65	1.60	718.1
2/21/2012 11:00	0.65	1.60	718.1
2/21/2012 12:00	0.65	1.60	718.1
2/21/2012 13:00	0.65	1.60	718.1
2/21/2012 14:00	0.65	1.60	718.1
2/21/2012 15:00	0.64	1.56	701.5
2/21/2012 16:00	0.65	1.60	718.1
2/21/2012 17:00	0.65	1.60	718.1
2/21/2012 18:00	0.64	1.56	701.5
2/21/2012 19:00	0.65	1.60	718.1
2/21/2012 20:00	0.64	1.56	701.5
2/21/2012 21:00	0.65	1.60	718.1
2/21/2012 22:00	0.64	1.56	701.5
2/21/2012 23:00	0.65	1.60	718.1
2/22/2012 0:00	0.65	1.60	718.1
2/22/2012 1:00	0.64	1.56	701.5
2/22/2012 2:00	0.64	1.56	701.5
2/22/2012 3:00	0.65	1.60	718.1
2/22/2012 4:00	0.64	1.56	701.5
2/22/2012 5:00	0.65	1.60	718.1
2/22/2012 6:00	0.64	1.56	701.5
2/22/2012 7:00	0.65	1.60	718.1
2/22/2012 8:00	0.65	1.60	718.1
2/22/2012 9:00	0.65	1.60	718.1

2/22/2012 10:00	0.65	1.60	718.1
2/22/2012 11:00	0.65	1.60	718.1
2/22/2012 12:00	0.64	1.56	701.5

Appendix J

South Flume Orpheus Mini Data with Flowrates

Date	Time	Depth from top of flume to water (ft)	Depth of Flume Total (ft)	Depth of Flow (ft)	Flowrate (cfs)	Flowrate (gpm)
2/1/2012	12:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/1/2012	1:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/1/2012	2:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/1/2012	3:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/1/2012	4:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/1/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/1/2012	6:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/1/2012	7:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/1/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/1/2012	9:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/1/2012	10:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/1/2012	11:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/1/2012	12:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/1/2012	1:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/1/2012	2:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/1/2012	3:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/1/2012	4:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/1/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/1/2012	6:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/1/2012	7:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/1/2012	8:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/1/2012	9:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/1/2012	10:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/1/2012	11:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/2/2012	12:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/2/2012	1:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/2/2012	2:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/2/2012	3:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/2/2012	4:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/2/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/2/2012	6:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/2/2012	7:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/2/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/2/2012	9:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/2/2012	10:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/2/2012	11:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/2/2012	12:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/2/2012	1:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/2/2012	2:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/2/2012	3:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/2/2012	4:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/2/2012	5:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/2/2012	6:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/2/2012	7:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/2/2012	8:00:00 PM	1.95	2.5	0.55	1.24	558.0

2/2/2012	9:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/2/2012	10:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/2/2012	11:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/3/2012	12:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/3/2012	1:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/3/2012	2:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/3/2012	3:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/3/2012	4:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/3/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/3/2012	6:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/3/2012	7:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/3/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/3/2012	9:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/3/2012	10:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/3/2012	11:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/3/2012	12:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/3/2012	1:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/3/2012	2:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/3/2012	3:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/3/2012	4:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/3/2012	5:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/3/2012	6:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/3/2012	7:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/3/2012	8:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/3/2012	9:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/3/2012	10:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/3/2012	11:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/4/2012	12:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/4/2012	1:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/4/2012	2:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/4/2012	3:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/4/2012	4:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/4/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/4/2012	6:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/4/2012	7:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/4/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/4/2012	9:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/4/2012	10:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/4/2012	11:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/4/2012	12:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/4/2012	1:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/4/2012	2:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/4/2012	3:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/4/2012	4:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/4/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/4/2012	6:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/4/2012	7:00:00 PM	1.96	2.5	0.54	1.21	542.7

2/4/2012	8:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/4/2012	9:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/4/2012	10:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/4/2012	11:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/5/2012	12:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/5/2012	1:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/5/2012	2:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/5/2012	3:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/5/2012	4:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/5/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/5/2012	6:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/5/2012	7:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/5/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/5/2012	9:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/5/2012	10:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/5/2012	11:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/5/2012	12:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/5/2012	1:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/5/2012	2:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/5/2012	3:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/5/2012	4:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/5/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/5/2012	6:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/5/2012	7:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/5/2012	8:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/5/2012	9:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/5/2012	10:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/5/2012	11:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/6/2012	12:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/6/2012	1:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/6/2012	2:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/6/2012	3:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/6/2012	4:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/6/2012	5:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/6/2012	6:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/6/2012	7:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/6/2012	8:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/6/2012	9:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/6/2012	10:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/6/2012	11:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/6/2012	12:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/6/2012	1:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/6/2012	2:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/6/2012	3:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/6/2012	4:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/6/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/6/2012	6:00:00 PM	1.96	2.5	0.54	1.21	542.7

2/6/2012	7:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/6/2012	8:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/6/2012	9:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/6/2012	10:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/6/2012	11:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/7/2012	12:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/7/2012	1:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/7/2012	2:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/7/2012	3:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/7/2012	4:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/7/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/7/2012	6:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/7/2012	7:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/7/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/7/2012	9:00:00 AM	1.99	2.5	0.51	1.11	497.8
2/7/2012	10:00:00 AM	2	2.5	0.50	1.08	483.2
2/7/2012	11:00:00 AM	2.03	2.5	0.47	0.98	440.0
2/7/2012	12:00:00 PM	2.03	2.5	0.47	0.98	440.0
2/7/2012	1:00:00 PM	2	2.5	0.50	1.08	483.2
2/7/2012	2:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/7/2012	3:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/7/2012	4:00:00 PM	1.93	2.5	0.57	1.31	588.9
2/7/2012	5:00:00 PM	1.93	2.5	0.57	1.31	588.9
2/7/2012	6:00:00 PM	1.93	2.5	0.57	1.31	588.9
2/7/2012	7:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/7/2012	8:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/7/2012	9:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/7/2012	10:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/7/2012	11:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/8/2012	12:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/8/2012	1:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/8/2012	2:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/8/2012	3:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/8/2012	4:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/8/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/8/2012	6:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/8/2012	7:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/8/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/8/2012	9:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/8/2012	10:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/8/2012	11:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/8/2012	12:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/8/2012	1:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/8/2012	2:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/8/2012	3:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/8/2012	4:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/8/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7

2/8/2012	6:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/8/2012	7:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/8/2012	8:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/8/2012	9:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/8/2012	10:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/8/2012	11:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/9/2012	12:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/9/2012	1:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/9/2012	2:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/9/2012	3:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/9/2012	4:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/9/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/9/2012	6:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/9/2012	7:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/9/2012	8:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/9/2012	9:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/9/2012	10:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/9/2012	11:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/9/2012	12:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/9/2012	1:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/9/2012	2:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/9/2012	3:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/9/2012	4:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/9/2012	5:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/9/2012	6:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/9/2012	7:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/9/2012	8:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/9/2012	9:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/9/2012	10:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/9/2012	11:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/10/2012	12:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/10/2012	1:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/10/2012	2:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/10/2012	3:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/10/2012	4:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/10/2012	5:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/10/2012	6:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/10/2012	7:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/10/2012	8:00:00 AM	2.01	2.5	0.49	1.04	468.6
2/10/2012	9:00:00 AM	2.04	2.5	0.46	0.95	426.0
2/10/2012	10:00:00 AM	2.08	2.5	0.42	0.83	371.3
2/10/2012	11:00:00 AM	2.1	2.5	0.40	0.77	344.9
2/10/2012	12:00:00 PM	2.09	2.5	0.41	0.80	358.0
2/10/2012	1:00:00 PM	2	2.5	0.50	1.08	483.2
2/10/2012	2:00:00 PM	1.93	2.5	0.57	1.31	588.9
2/10/2012	3:00:00 PM	1.91	2.5	0.59	1.38	620.4
2/10/2012	4:00:00 PM	1.9	2.5	0.60	1.42	636.4

2/10/2012	5:00:00 PM	1.9	2.5	0.60	1.42	636.4
2/10/2012	6:00:00 PM	1.91	2.5	0.59	1.38	620.4
2/10/2012	7:00:00 PM	1.93	2.5	0.57	1.31	588.9
2/10/2012	8:00:00 PM	1.93	2.5	0.57	1.31	588.9
2/10/2012	9:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/10/2012	10:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/10/2012	11:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/11/2012	12:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/11/2012	1:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/11/2012	2:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/11/2012	3:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/11/2012	4:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/11/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/11/2012	6:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/11/2012	7:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/11/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/11/2012	9:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/11/2012	10:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/11/2012	11:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/11/2012	12:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/11/2012	1:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/11/2012	2:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/11/2012	3:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/11/2012	4:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/11/2012	5:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/11/2012	6:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/11/2012	7:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/11/2012	8:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/11/2012	9:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/11/2012	10:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/11/2012	11:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/12/2012	12:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/12/2012	1:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/12/2012	2:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/12/2012	3:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/12/2012	4:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/12/2012	5:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/12/2012	6:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/12/2012	7:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/12/2012	8:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/12/2012	9:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/12/2012	10:00:00 AM	1.93	2.5	0.57	1.31	588.9
2/12/2012	11:00:00 AM	1.93	2.5	0.57	1.31	588.9
2/12/2012	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
2/12/2012	1:00:00 PM	1.93	2.5	0.57	1.31	588.9
2/12/2012	2:00:00 PM	1.93	2.5	0.57	1.31	588.9
2/12/2012	3:00:00 PM	1.93	2.5	0.57	1.31	588.9

2/12/2012	4:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/12/2012	5:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/12/2012	6:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/12/2012	7:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/12/2012	8:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/12/2012	9:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/12/2012	10:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/12/2012	11:00:00 PM	1.93	2.5	0.57	1.31	588.9
2/13/2012	12:00:00 AM	1.93	2.5	0.57	1.31	588.9
2/13/2012	1:00:00 AM	1.93	2.5	0.57	1.31	588.9
2/13/2012	2:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/13/2012	3:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/13/2012	4:00:00 AM	1.93	2.5	0.57	1.31	588.9
2/13/2012	5:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/13/2012	6:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/13/2012	7:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/13/2012	8:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/13/2012	9:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/13/2012	10:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/13/2012	11:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/13/2012	12:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/13/2012	1:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/13/2012	2:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/13/2012	3:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/13/2012	4:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/13/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/13/2012	6:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/13/2012	7:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/13/2012	8:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/13/2012	9:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/13/2012	10:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/13/2012	11:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/14/2012	12:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/14/2012	1:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/14/2012	2:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/14/2012	3:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/14/2012	4:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/14/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/14/2012	6:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/14/2012	7:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/14/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/14/2012	9:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/14/2012	10:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/14/2012	11:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/14/2012	12:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/14/2012	1:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/14/2012	2:00:00 PM	1.95	2.5	0.55	1.24	558.0

2/14/2012	3:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/14/2012	4:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/14/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/14/2012	6:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/14/2012	7:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/14/2012	8:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/14/2012	9:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/14/2012	10:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/14/2012	11:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/15/2012	12:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/15/2012	1:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/15/2012	2:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/15/2012	3:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/15/2012	4:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/15/2012	5:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/15/2012	6:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/15/2012	7:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/15/2012	8:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/15/2012	9:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/15/2012	10:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/15/2012	11:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/15/2012	12:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/15/2012	1:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/15/2012	2:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/15/2012	3:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/15/2012	4:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/15/2012	5:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/15/2012	6:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/15/2012	7:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/15/2012	8:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/15/2012	9:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/15/2012	10:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/15/2012	11:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/16/2012	12:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/16/2012	1:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/16/2012	2:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/16/2012	3:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/16/2012	4:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/16/2012	5:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/16/2012	6:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/16/2012	7:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/16/2012	8:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/16/2012	9:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/16/2012	10:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/16/2012	11:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/16/2012	12:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/16/2012	1:00:00 PM	1.97	2.5	0.53	1.18	527.6

2/16/2012	2:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/16/2012	3:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/16/2012	4:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/16/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/16/2012	6:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/16/2012	7:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/16/2012	8:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/16/2012	9:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/16/2012	10:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/16/2012	11:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/17/2012	12:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/17/2012	1:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/17/2012	2:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/17/2012	3:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/17/2012	4:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/17/2012	5:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/17/2012	6:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/17/2012	7:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/17/2012	8:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/17/2012	9:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/17/2012	10:00:00 AM	2	2.5	0.50	1.08	483.2
2/17/2012	11:00:00 AM	2.03	2.5	0.47	0.98	440.0
2/17/2012	12:00:00 PM	2.06	2.5	0.44	0.89	398.3
2/17/2012	1:00:00 PM	2.06	2.5	0.44	0.89	398.3
2/17/2012	2:00:00 PM	2.02	2.5	0.48	1.01	454.3
2/17/2012	3:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/17/2012	4:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/17/2012	5:00:00 PM	1.92	2.5	0.58	1.35	604.6
2/17/2012	6:00:00 PM	1.92	2.5	0.58	1.35	604.6
2/17/2012	7:00:00 PM	1.93	2.5	0.57	1.31	588.9
2/17/2012	8:00:00 PM	1.93	2.5	0.57	1.31	588.9
2/17/2012	9:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/17/2012	10:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/17/2012	11:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/18/2012	12:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/18/2012	1:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/18/2012	2:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/18/2012	3:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/18/2012	4:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/18/2012	5:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/18/2012	6:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/18/2012	7:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/18/2012	8:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/18/2012	9:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/18/2012	10:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/18/2012	11:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/18/2012	12:00:00 PM	1.98	2.5	0.52	1.14	512.6

2/18/2012	1:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/18/2012	2:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/18/2012	3:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/18/2012	4:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/18/2012	5:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/18/2012	6:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/18/2012	7:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/18/2012	8:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/18/2012	9:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/18/2012	10:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/18/2012	11:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/19/2012	12:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/19/2012	1:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/19/2012	2:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/19/2012	3:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/19/2012	4:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/19/2012	5:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/19/2012	6:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/19/2012	7:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/19/2012	8:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/19/2012	9:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/19/2012	10:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/19/2012	11:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/19/2012	12:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/19/2012	1:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/19/2012	2:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/19/2012	3:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/19/2012	4:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/19/2012	5:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/19/2012	6:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/19/2012	7:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/19/2012	8:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/19/2012	9:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/19/2012	10:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/19/2012	11:00:00 PM	1.93	2.5	0.57	1.31	588.9
2/20/2012	12:00:00 AM	1.93	2.5	0.57	1.31	588.9
2/20/2012	1:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/20/2012	2:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/20/2012	3:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/20/2012	4:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/20/2012	5:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/20/2012	6:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/20/2012	7:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/20/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/20/2012	9:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/20/2012	10:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/20/2012	11:00:00 AM	1.96	2.5	0.54	1.21	542.7

2/20/2012	12:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/20/2012	1:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/20/2012	2:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/20/2012	3:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/20/2012	4:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/20/2012	5:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/20/2012	6:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/20/2012	7:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/20/2012	8:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/20/2012	9:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/20/2012	10:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/20/2012	11:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/21/2012	12:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/21/2012	1:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/21/2012	2:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/21/2012	3:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/21/2012	4:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/21/2012	5:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/21/2012	6:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/21/2012	7:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/21/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/21/2012	9:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/21/2012	10:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/21/2012	11:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/21/2012	12:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/21/2012	1:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/21/2012	2:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/21/2012	3:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/21/2012	4:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/21/2012	5:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/21/2012	6:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/21/2012	7:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/21/2012	8:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/21/2012	9:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/21/2012	10:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/21/2012	11:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/22/2012	12:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/22/2012	1:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/22/2012	2:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/22/2012	3:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/22/2012	4:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/22/2012	5:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/22/2012	6:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/22/2012	7:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/22/2012	8:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/22/2012	9:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/22/2012	10:00:00 AM	1.98	2.5	0.52	1.14	512.6

2/22/2012	11:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/22/2012	12:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/22/2012	1:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/22/2012	2:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/22/2012	3:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/22/2012	4:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/22/2012	5:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/22/2012	6:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/22/2012	7:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/22/2012	8:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/22/2012	9:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/22/2012	10:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/22/2012	11:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/23/2012	12:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/23/2012	1:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/23/2012	2:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/23/2012	3:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/23/2012	4:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/23/2012	5:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/23/2012	6:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/23/2012	7:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/23/2012	8:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/23/2012	9:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/23/2012	10:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/23/2012	11:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/23/2012	12:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/23/2012	1:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/23/2012	2:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/23/2012	3:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/23/2012	4:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/23/2012	5:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/23/2012	6:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/23/2012	7:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/23/2012	8:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/23/2012	9:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/23/2012	10:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/23/2012	11:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/24/2012	12:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/24/2012	1:00:00 AM	2	2.5	0.50	1.08	483.2
2/24/2012	2:00:00 AM	1.99	2.5	0.51	1.11	497.8
2/24/2012	3:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/24/2012	4:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/24/2012	5:00:00 AM	1.99	2.5	0.51	1.11	497.8
2/24/2012	6:00:00 AM	2.01	2.5	0.49	1.04	468.6
2/24/2012	7:00:00 AM	2.05	2.5	0.45	0.92	412.1
2/24/2012	8:00:00 AM	2.08	2.5	0.42	0.83	371.3
2/24/2012	9:00:00 AM	2.1	2.5	0.40	0.77	344.9

2/24/2012	10:00:00 AM	2.12	2.5	0.38	0.71	319.2
2/24/2012	11:00:00 AM	2.07	2.5	0.43	0.86	384.7
2/24/2012	12:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/24/2012	1:00:00 PM	1.92	2.5	0.58	1.35	604.6
2/24/2012	2:00:00 PM	1.9	2.5	0.60	1.42	636.4
2/24/2012	3:00:00 PM	1.9	2.5	0.60	1.42	636.4
2/24/2012	4:00:00 PM	1.91	2.5	0.59	1.38	620.4
2/24/2012	5:00:00 PM	1.93	2.5	0.57	1.31	588.9
2/24/2012	6:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/24/2012	7:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/24/2012	8:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/24/2012	9:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/24/2012	10:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/24/2012	11:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/25/2012	12:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/25/2012	1:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/25/2012	2:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/25/2012	3:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/25/2012	4:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/25/2012	5:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/25/2012	6:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/25/2012	7:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/25/2012	8:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/25/2012	9:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/25/2012	10:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/25/2012	11:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/25/2012	12:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/25/2012	1:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/25/2012	2:00:00 PM	1.99	2.5	0.51	1.11	497.8
2/25/2012	3:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/25/2012	4:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/25/2012	5:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/25/2012	6:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/25/2012	7:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/25/2012	8:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/25/2012	9:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/25/2012	10:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/25/2012	11:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/26/2012	12:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/26/2012	1:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/26/2012	2:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/26/2012	3:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/26/2012	4:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/26/2012	5:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/26/2012	6:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/26/2012	7:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/26/2012	8:00:00 AM	1.98	2.5	0.52	1.14	512.6

2/26/2012	9:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/26/2012	10:00:00 AM	1.97	2.5	0.53	1.18	527.6
2/26/2012	11:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/26/2012	12:00:00 PM	1.99	2.5	0.51	1.11	497.8
2/26/2012	1:00:00 PM	1.99	2.5	0.51	1.11	497.8
2/26/2012	2:00:00 PM	1.99	2.5	0.51	1.11	497.8
2/26/2012	3:00:00 PM	1.99	2.5	0.51	1.11	497.8
2/26/2012	4:00:00 PM	1.99	2.5	0.51	1.11	497.8
2/26/2012	5:00:00 PM	1.99	2.5	0.51	1.11	497.8
2/26/2012	6:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/26/2012	7:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/26/2012	8:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/26/2012	9:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/26/2012	10:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/26/2012	11:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/27/2012	12:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/27/2012	1:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/27/2012	2:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/27/2012	3:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/27/2012	4:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/27/2012	5:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/27/2012	6:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/27/2012	7:00:00 AM	1.99	2.5	0.51	1.11	497.8
2/27/2012	8:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/27/2012	9:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/27/2012	10:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/27/2012	11:00:00 AM	1.98	2.5	0.52	1.14	512.6
2/27/2012	12:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/27/2012	1:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/27/2012	2:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/27/2012	3:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/27/2012	4:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/27/2012	5:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/27/2012	6:00:00 PM	1.98	2.5	0.52	1.14	512.6
2/27/2012	7:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/27/2012	8:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/27/2012	9:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/27/2012	10:00:00 PM	1.95	2.5	0.55	1.24	558.0
2/27/2012	11:00:00 PM	1.94	2.5	0.56	1.28	573.4
2/28/2012	12:00:00 AM	1.93	2.5	0.57	1.31	588.9
2/28/2012	1:00:00 AM	1.93	2.5	0.57	1.31	588.9
2/28/2012	2:00:00 AM	1.93	2.5	0.57	1.31	588.9
2/28/2012	3:00:00 AM	1.93	2.5	0.57	1.31	588.9
2/28/2012	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
2/28/2012	5:00:00 AM	1.91	2.5	0.59	1.38	620.4
2/28/2012	6:00:00 AM	1.89	2.5	0.61	1.45	652.4
2/28/2012	7:00:00 AM	1.9	2.5	0.60	1.42	636.4

2/28/2012	8:00:00 AM	1.91	2.5	0.59	1.38	620.4
2/28/2012	9:00:00 AM	1.92	2.5	0.58	1.35	604.6
2/28/2012	10:00:00 AM	1.9	2.5	0.60	1.42	636.4
2/28/2012	11:00:00 AM	1.89	2.5	0.61	1.45	652.4
2/28/2012	12:00:00 PM	1.89	2.5	0.61	1.45	652.4
2/28/2012	1:00:00 PM	1.88	2.5	0.62	1.49	668.7
2/28/2012	2:00:00 PM	1.89	2.5	0.61	1.45	652.4
2/28/2012	3:00:00 PM	1.89	2.5	0.61	1.45	652.4
2/28/2012	4:00:00 PM	1.9	2.5	0.60	1.42	636.4
2/28/2012	5:00:00 PM	1.91	2.5	0.59	1.38	620.4
2/28/2012	6:00:00 PM	1.91	2.5	0.59	1.38	620.4
2/28/2012	7:00:00 PM	1.92	2.5	0.58	1.35	604.6
2/28/2012	8:00:00 PM	1.92	2.5	0.58	1.35	604.6
2/28/2012	9:00:00 PM	1.92	2.5	0.58	1.35	604.6
2/28/2012	10:00:00 PM	1.92	2.5	0.58	1.35	604.6
2/28/2012	11:00:00 PM	1.93	2.5	0.57	1.31	588.9
2/29/2012	12:00:00 AM	1.93	2.5	0.57	1.31	588.9
2/29/2012	1:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/29/2012	2:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/29/2012	3:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/29/2012	4:00:00 AM	1.94	2.5	0.56	1.28	573.4
2/29/2012	5:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/29/2012	6:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/29/2012	7:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/29/2012	8:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/29/2012	9:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/29/2012	10:00:00 AM	1.95	2.5	0.55	1.24	558.0
2/29/2012	11:00:00 AM	1.96	2.5	0.54	1.21	542.7
2/29/2012	12:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/29/2012	1:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/29/2012	2:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/29/2012	3:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/29/2012	4:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/29/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/29/2012	6:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/29/2012	7:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/29/2012	8:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/29/2012	9:00:00 PM	1.96	2.5	0.54	1.21	542.7
2/29/2012	10:00:00 PM	1.97	2.5	0.53	1.18	527.6
2/29/2012	11:00:00 PM	1.97	2.5	0.53	1.18	527.6

Appendix K

EPA Guidelines on Determining Streamflow from Surface Velocity



Water: Monitoring & Assessment

You are here: Water » Our Waters » Rivers & Streams » Monitoring & Assessment » 5.1 Stream Flow

5.1 Stream Flow

What is stream flow and why is it important?

Stream flow, or discharge, is the volume of water that moves over a designated point over a fixed period of time. It is often expressed as cubic feet per second (ft^3/sec).

The flow of a stream is directly related to the amount of water moving off the watershed into the stream channel. It is affected by weather, increasing during rainstorms and decreasing during dry periods. It also changes during different seasons of the year, decreasing during the summer months when evaporation rates are high and shoreline vegetation is actively growing and removing water from the ground. August and September are usually the months of lowest flow for most streams and rivers in most of the country.

Water withdrawals for irrigation purposes can seriously deplete water flow, as can industrial water withdrawals. Dams used for electric power generation, particularly facilities designed to produce power during periods of peak need, often block the flow of a stream and later release it in a surge.

Flow is a function of water volume and velocity. It is important because of its impact on water quality and on the living organisms and habitats in the stream. Large, swiftly flowing rivers can receive pollution discharges and be little affected, whereas small streams have less capacity to dilute and degrade wastes.

Stream velocity, which increases as the volume of the water in the stream increases, determines the kinds of organisms that can live in the stream (some need fast-flowing areas; others need quiet pools). It also affects the amount of silt and sediment carried by the stream. Sediment introduced to quiet, slow-flowing streams will settle quickly to the stream bottom. Fast moving streams will keep sediment suspended longer in the water column. Lastly, fast-moving streams generally have higher levels of dissolved oxygen than slow streams because they are better aerated.

This section describes one method for estimating flow in a specific area or reach of a stream. It is adapted from techniques used by several volunteer monitoring programs and uses a float (an object such as an orange, ping-pong ball, pine cone, etc.) to measure stream velocity. Calculating flow involves solving an equation that examines the relationship among several variables including stream cross-sectional area, stream length, and water velocity. One way to measure flow is to solve the following equation:

$$\text{Flow} = \text{ALC} / \text{T}$$

Where:

A=Average cross-sectional area of the stream (stream width multiplied by average water depth).

L=Length of the stream reach measured (usually 20 ft.)

C=A coefficient or correction factor (0.8 for rocky-bottom streams or 0.9 for muddy-bottom streams). This allows you to correct for the fact that water at the surface travels faster than near the stream bottom due to resistance from gravel, cobble, etc. Multiplying the surface velocity by a correction coefficient decreases the value and gives a better measure of the stream's overall velocity.

T=Time, in seconds, for the float to travel the length of L

How to Measure and Calculate Stream Flow

Task 1 Prepare before leaving for the sampling site

Refer to [section 2.3 - Safety Considerations](#) for details on confirming sampling date and time, safety considerations, checking supplies, and checking weather and directions. In addition to the standard sampling equipment and apparel, when measuring and calculating flow, include the following equipment:

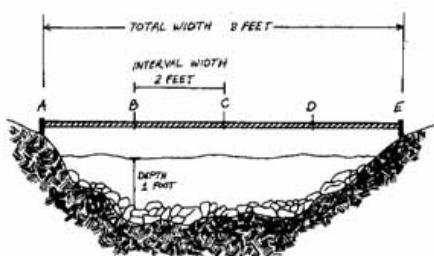
- Ball of heavy-duty string, four stakes, and a hammer to drive the stakes into the ground. The string will be stretched across the width of the stream perpendicular to shore at two locations. The stakes are to anchor the string on each bank to form a transect line.
- Tape measure (at least 20 feet)
- Waterproof yardstick or other implement to measure water depth
- Twist ties (to mark off intervals on the string of the transect line)
- An orange and a fishing net (to scoop the orange out of the stream)
- Stopwatch (or watch with a second hand)
- Calculator (optional)

Task 2 Select a stretch of stream

The stream stretch chosen for the measurement of discharge should be straight (no bends), at least 6 inches deep, and should not contain an area of slow water such as a pool. Unobstructed riffles or runs are ideal. The length that you select will be equal to L in solving the flow equation. Twenty feet is a standard length used by many programs. Measure your length and mark the upper and lower end by running a transect line across the stream perpendicular to the shore using the string and stakes (Fig. 5.4). The string should be taut and near the water surface. The upstream transect is Transect #1 and the downstream one is Transect #2.

Task 3 Calculate the average cross-sectional area

Cross-sectional area (A in the formula) is the product of stream width multiplied by average water depth. To calculate the average cross-sectional area for the study stream reach, volunteers should determine the cross-sectional area for each transect, add the results together, and then divide by 2 to determine the average cross-sectional area for the stream reach.

To measure cross-sectional area:**Figure 5.5**

2. Determine the average depth along the transect by marking off equal intervals along the string with the twist ties. The intervals can be one-fourth, one-half, and three-fourths of the distance across the stream. Measure the water's depth at each interval point (Fig. 5.5). To calculate average depth for each transect, divide the total of the three depth measurements by 4. (You divide by 4 instead of 3 because you need to account for the 0 depths that occur at the shores.) In the example shown in Figure 5.6, the average depth of Transect #1 is 0.575 feet and the average depth of Transect #2 is 0.625 feet.
3. Determine the width of each transect by measuring the distance from shoreline to shoreline. Simply add together all the interval widths for each transect to determine its width. In the Figure 5.6 example, the width of Transect #1 is 8 feet and the width of Transect #2 is 10 feet.
4. Calculate the cross-sectional area of each transect by multiplying width times average depth. The example given in Figure 5.6 shows that the average cross-sectional area of Transect #1 is 4.60 square feet and the average cross-sectional area of Transect #2 is 6.25 square feet.

5. To determine the average cross-sectional area of the entire stream reach (A in the formula), add together the average cross-sectional area of each transect and then divide by 2. The average cross-sectional area for the stream reach in Figure 5.6 is 5.42 square feet.

Figure 5.6**A diagram of a 20-foot transect****Task 4 Measure travel time**

Volunteers should time with a stopwatch how long it takes for an orange (or some other object) to float from the upstream to the downstream transect. An orange is a good object to use because it has enough buoyancy to float just below the water surface. It is at this position that maximum velocity typically occurs.

The volunteer who lets the orange go at the upstream transect should position it so it flows into the fastest current. The clock stops when the orange passes fully under the downstream transect line. Once under the transect line, the orange can be scooped out of the water with the fishing net. This "time of travel" measurement should be conducted at least three times and the results averaged--the more trials you do, the more accurate your results will be. The averaged results are equal to T in the formula. It is a good idea to float the orange at different distances from the bank to get various velocity estimates. You should discard any float trials if the object gets hung up in the stream (by cobbles, roots, debris, etc.)

Task 5 Calculate flow

Recall that flow can be calculated using the equation:

$$\text{Flow} = \text{ALC} / \text{T}$$

Continuing the example in Fig. 5.6, say the average time of travel for the orange between Transect #1 and #2 is 15 seconds and the stream had a rocky bottom. The calculation of flow would be:

Where:

A	=	5.42 ft ²
L	=	20 ft
C	=	0.8 (coefficient for a rocky-bottom stream)
T	=	15 seconds

$$\begin{aligned} \text{Flow} &= 15 \text{ seconds} (5.42 \text{ ft}^2) (20 \text{ ft}) (0.8) / 15 \text{ sec.} \\ &= 86.72 \text{ ft}^3 / 15 \text{ sec.} \\ &= 5.78 \text{ ft}^3/\text{sec.} \end{aligned}$$

Task 6 Record flow on the data form

On the following page is a form volunteers can use to calculate flow of a stream.

References

Adopt-A-Stream Foundation. *Field Guide: Watershed Inventory and Stream Monitoring Methods*, by Tom Murdoch and Martha Cheo. 1996. Everett, WA.

Mitchell, M.K., and W. Stapp. *Field Manual for Water Quality Monitoring*. 5th Edition. Thompson Shore Printers.

Missouri Stream Teams. *Volunteer Water Quality Monitoring*. Missouri Department of Natural Resources, P.O. Box 176, Jefferson City, MO 65102.

[Data Form for Calculating Flow \(PDF, 82.8 KB\)](#)

You will need Adobe Acrobat Reader to view the Adobe PDF files on this page. See [EPA's PDF page](#) for more information about getting and using the free Acrobat Reader.

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